

A

TREATISE ON MOXA,

AS APPLICABLE MORE PARTICULARLY TO

STIFF JOINTS :

ILLUSTRATED BY CASES AND PLATES :

WITH SOME

GENERAL OBSERVATIONS ON SPINAL DISEASE.

BY

JAMES BOYLE, ESQ.



SURGEON OF THE MIDDLESEX INFIRMARY; AUTHOR OF A
TREATISE UPON THE EPIDEMIC CHOLERA OF INDIA; OF
LETTERS ON THE PREVENTION AND CURE OF DISEASES
PECULIAR TO HOT AND COLD COUNTRIES; AND OF A
TREATISE UPON SYPHILIS.

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1825.



TO

WILLIAM BURNETT, M.D.,

ONE OF THE COMMISSIONERS FOR THE MEDICAL
DEPARTMENT OF HIS MAJESTY'S NAVY,
PHYSICIAN IN ORDINARY TO HIS ROYAL HIGHNESS THE DUKE
OF CLARENCE, AND HONORARY FELLOW OF THE IMPERIAL
MEDICO-CHIRURGICAL ACADEMY OF ST. PETERSBURGH,

&c. &c. &c.

DEAR SIR;

The motives which induce
me to inscribe to you the present little
work need not much explanation or com-
ment; they arise solely from the high de-
gree of respect which I entertain for
your public and private character: may
I add, Sir, that it affords me very sincere

satisfaction to have an opportunity of thus briefly giving expression to sentiments, which, I have reason to know, are in unison with those of the great majority of my medical brethren in the public service.

I have the honour to be,

Dear Sir,

with great respect,

Your Obedient Servant,

THE AUTHOR.

4, Cleveland Square,
St. James's, 1825.

CONTENTS.

	Page
<i>Introduction</i>	i
<i>On the Derivation of the Word Moxa</i>	1
<i>History of Moxa</i>	9
<i>Cases treated with Moxa</i>	22
<i>Action of Moxa</i>	85
<i>Observations on Remedies usually employed in the Treatment of Diseased Joints, considering them in the order in which they are most used:</i>	
<i>Cupping and Leeching</i>	98
<i>Blistering</i>	101
<i>Setons and Issues</i>	106
<i>Friction</i>	110
<i>Shampooing</i>	112
<i>Manipulation</i>	113
<i>Electricity and Galvanism</i>	115
<i>Observations on Affections of the Spine, and the Muscles which are more particularly concerned in its Motions</i>	119

<i>On the Nature of Contracted or Chicken-Chest..</i>	143
<i>On the more common Causes of Spinal and Joint</i>	
<i>Diseases in Infants</i>	146
<i>Exercise and Diet, as regards Children.....</i>	151
<i>General Observations on the Prevention and</i>	
<i>Treatment of Spinal Disorders.....</i>	156

E R R A T A.

Introduction, page xvi, line 2, *for* referible *read* referrible.

Page 59, Note, l. 1, *for* habituel *read* habituels.

66, l. 7, *for* Sartorius *read* Sartorius.

77, l. 4, *for* os calus *read* os calcis.

86, l. 12, *for* burler *read* bruler.

122, Note, l. 2, *for* requires *read* require.

128, l. 4, *for* unde *read* under.

129, l. 2, *after* closely *supply* of.

141, l. 1, *for* lapedem *read* lapidem.

142, l. 1, *for* remains *read* remain.

144, l. 12, *for* lattissimi *read* latissimi.

Ibid, l. 14, *for* eleido *read* cleido.

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INTRODUCTION.

“ Nullum remedium prestantius est igne.”—MAGGI.

PHILOSOPHERS have beautifully illustrated many of the phenomena resulting from the action of *caloric*, under various circumstances of its application to matter, whether of the animal, vegetable, or fossil kingdoms. But it is somewhat extraordinary that this, the most powerful agent in nature, is so little studied as it applies to *pathology*, and the treatment of chronic disease. It is true, our French co-tempo-

aries have given abundant proofs of the practical advantages of heat, mechanically applied to the human body ; but they have left entirely unexplored the *physiological* action of this powerful material.

To these latter considerations, then, the following observations shall be mainly directed ; bearing more particularly in mind the primary properties of the element under review ; because it is fair to infer, that a knowledge of the simple as well as the more important qualities of heat, has as much to do with its application practically, as an intimacy with the human circulation is essential in the treatment of inflammatory disorders. It will scarcely be denied, that the important discovery of the immortal Harvey, as it conveyed further knowledge of the animal economy, led to happier results than had previously taken place in the treatment of disease.

It is acknowledged, that every thing in the habitable world contains more or less of this material, and that in proportion to the degree of sensible heat present in matter, of whatever nature, the respective terms of hot, warm, or cold, are admissible ; more properly as qualifications of the effects produced upon our bodies and our sensations, than of the extent to which such matter may be actually charged, or for the purpose of defining opposite qualities by the use of those expressions.

Some bodies are capable of bearing a higher temperature than others without suffering decomposition, although the circumstances may be similar ; and all are liable to be differently influenced under varied circumstances, and at definite times. Others, again, are more difficultly affected by excitation, which is one of the means of producing heat ; and yet, when excited,

attain to an infinitely higher range of thermometrical indication. Some bodies, being bad conductors, are quickly influenced to a limited extent, and are therefore more gradually consumed; whilst, on the other hand, the reverse is the case with good conductors, of a more dense texture.

Viewing also, upon inorganic substances, the extraordinary powers of heat in effecting such changes, for instance, as fusion, expansion, and even a separation of some of their component particles, is it not rational to expect an equal variety of results from the action of a varied temperature on organic or living animal matter; and that these results will have a tendency more or less favourable towards the cure of disease, depending on the physiological nature of the part acted upon, the intensity of heat applied, the degree of structural or functional derangement pre-

viously existing; and, finally, the happy exercise of that judgment to which a full consideration of the foregoing circumstances will naturally lead?

Many familiar instances might be given of the effects of heat artificially employed in hot-houses; or let this be exemplified by viewing nature in her more simple state, when, from the genial powers of approaching spring, trees change their foliage, the feathered creation its plumage, and all animated nature appears to be re-inspired. Behold with what comparative rapidity man and other animals come to a state of maturity in tropical climates; and see also, from the same cause, how vastly superior those countries are in point of natural fertility to those in which a less equal distribution of this precious bounty (heat) is experienced. This element, although it may from a variety of circumstances change its effects, is still unalter-

able in its laws: just as a more active circulation of the vital fluids in animal or vegetable matter, under its influence, contributes to a more healthy and rapid organization of its structure; so, in degree, does the artificial application of heat, under certain circumstances, tend to excite that in a latent state, and consequently to the renovation of the living principle.

It is by attending to these unerring laws that the horticulturist preserves his tender plants from accident and exposure, which would otherwise destroy them; and that he is enabled to unite many virtues, and produce a variety of fruits from the same tree. The powers of the surgeon are not less conspicuous in the application of these laws to the healing art; as from his knowledge of that inherent effort in the animal machine to repair loss, he can greatly facilitate regeneration by a wise adaptation of injured parts.

Perhaps, too, by reflecting upon these fundamental principles it is, that so many curious and novel practices arise; the ancients, although they were in the habit of making *new noses*, never dreamt of the *transplantation of teeth*, LAENNEC'S mode of *Auscultation*, or the still more recent discovery of *blistering by steam**.

Heat and cold, as has been stated, are modifications of the same element; they are, however, of opposite extremes; and, exciting very different sensations, it is extraordinary that these two states should possess the power of inducing similar effects—effects entirely depending upon the constitution of the individual exposed to either; as the same constitution, or part, will be differently influenced at different

* An instrument has lately been invented by a gentleman of my acquaintance, for the purpose of blistering by means of steam; and doubtless such mode will have its advantages.

times by the same agent, on varying the degree of intensity. In the hottest and coldest climates we witness these opposite results ; the temperate zones admit not of such variety, at least not to an equal extent.

The first result of heat is an increased impulse and vigour imparted to the heart and arteries, which may or may not terminate in inflammation, depending upon causes peculiar to the subject himself: be this as it may, after a longer or shorter duration of the exciting cause, the same individual becomes less susceptible of fever. A languid circulation, want of energy, and relaxation of all the powers is the consequence ; and if, perchance, febrile symptoms afterwards set in, they will ordinarily depend upon topical, not general excitement.

Cold, in like manner, produces its varieties — varieties which eventually have

nearly the same tendency as those of heat.

The first effects of a moderate degree of cold are an increase of energy and vigour ; but if the temperature be lowered, and the period of its application prolonged, the case will be widely different ; as from the sudden escape of heat attendant upon exposure to this extreme, collapse of the remote vessels is consequent*. The heart has now to contend with redundant blood, which may destroy life if the cause be long enough continued ; but if nature, in her struggles, succeed to establish reaction, then the blood, being determined with violence, finds its way to that part upon which the cold had longest operated ; and there the resisting power of the vessels be-

* On the north coast of America, and in the North Seas, a sudden cessation of vitality in an exposed part is common ; and mortification, ending in the loss of a limb, or the patient's life, but too frequently occurs.

ing lessened, inflammation necessarily sets in, and assumes a character referible to the existing predisposition of the subject.

Thus cold, like heat, may produce an increased or diminished action, or both, precisely in proportion to the modifications used in its application, the period of exposure, and whether this last be of a general or local nature.

As first projectors of the utility of heat in the treatment of disease, we are indebted to the untutored Indians, and savage Africans, who have practised its application time immemorial; but like every other discovery not boasting of professional origin, and consequently not generally recognized in civilized nations, a knowledge of its advantages has been but little sought after by the faculty, more particularly in the British empire.

The diseases to which it is my wish to

draw the attention of the profession by the present volume, are *chiefly* those of the joints; and it may appear superfluous, perhaps, to have recourse to much argument to prove, that those diseases, particularly in large cities, are above all others the most common, frequently the most difficult of cure, and always most distressing to the mind of the sufferer. By these afflictions the otherwise happy days of youth are but too often days of sorrow, pain, and anxiety; not unfrequently casting a gloom upon prospects of a worldly nature, varying in different persons only with the cause which had excited the ambition or hope of the suffering individual.

No part of the community is entirely free from these depressing—it may be said distressing maladies: the abuse of care, and an improper mode of nursing, are conspicuous causes in high life; whilst

poverty, want of care, and consequent exposure to accident, are never-failing sources amongst the lowest orders of society : those in a medium sphere are less frequently victims to joint diseases than those of either of the opposite extremes, and that for obvious reasons. Persons in the middle state, from industrious habits, possessing all the luxuries necessary for a healthful constitution, engage themselves in avocations, which, employing both the mind and the body, materially contribute to improve the state of the latter : thus employed, they are not exposed to the equal dangers of excess and idleness, or poverty and inattention.

In bringing forward new remedies for the treatment of particular diseases, it is proper to advance strong testimony of their advantages, and which has not merely for its object notoriety, or a love of novelty, but a real desire to contribute

to the improvement of science, by the publication of important facts ; for theory, without facts to support it, is less satisfactory than facts without theory. A *charlatan* may cure by accident, but, deficient of principles by which to be guided, his success must ever be doubtful, and his attempts attended with danger ; incapable of arguing from analogy, or of deducing correct inference, when he meets with a new case he is at a stand : in fact, on meeting a new case he has generally to treat a new part, with regard to the functions of which he is ignorant, and consequently at a loss how to apply his all-powerful *nostrum*. Thus it is, that a happy combination of theory and practice is of such vast importance : and nice judgment in the application of the same remedial measure is not of minor consideration.

The object of the following observations, therefore, will be to support upon system

what will be given in detail ; attested by cases, the subjects of which, having been chiefly in high life, had the means of trying every mode of treatment that was deemed advisable by the first practitioners in this country ; and some of them had an opportunity of consulting the most eminent surgeons on the continent.

However important a different mode of procedure to the success of this publication might be, I forbear stating the names of the patients whose cases shall be cited, or of the deservedly respected and able physicians and surgeons, under whose management they were ; it would, perhaps, be unpleasant to some of the former, and might bear the semblance of invidiousness towards the latter : with this precaution the allusion cannot—at least it should not, give offence, since it is only by comparison that the superiority of any remedy is to be decided ; or, in other words, it is by op-

posing different means in the same, or similar cases, that we are enabled to judge of the advantages of either. But these are not the days for apology, if in an effort to be useful, one should unintentionally offend : the golden era of physic is, perhaps, fast approaching, when science and liberality will go hand in hand ; nay, even now, the change is considerable — industry is the order of the day, and eminence is more fairly contended for. Professional men of genius no longer think it detracting from their dignity, to add to their stock by the accumulation of useful knowledge, however acquired. The component parts of almost all the quack, or patent medicines, have at length been detected, and some of these medicines have been wisely applied by the profession. The treatment of spinal disorders, which hitherto was in a great measure confined to the impostor, is now taught upon scientific and true phy-

siological principles : and the remedy of friction in the treatment of stiff joints, which only a few years back, was held in contempt by the generality of medical men, is now practised by some of the best surgeons in Europe. Thus the uses and abuses of concealed measures are daily exposed ; the highway to public favour is, at length, open to all ; and it is to be hoped, that the final extinction of a long-endured monopoly has nearly arrived.

A

TREATISE ON MOXA.

ON
THE DERIVATION
OF
THE WORD "MOXA."



THE investigation of the original meaning of the term *moxa* is involved in much obscurity, and the opinions of many eminent men regarding it are contradictory, particularly those who have attempted a precise explanation of it, according to the *use* to which it was first applied.

Dr. DUNGLISON, in an introduction to his translation of Baron LARRY's work

upon the subject, endeavours to show, with apparent success, that it derives its origin from the Portuguese voyagers, who, first of Europeans, witnessed its application in topical complaints ; but it is well known, that, of all languages, the Portuguese is, perhaps, the most defective in classicality, as it appears to amalgamate with that of every nation with which it comes in contact.

The derivation of *moxa* is thus given * by Dr. DUNGLISON, on the authority of the *Dictionnaire des Sciences Medicales*. “ The term *moxa* has been considered, by most authors, as a word of oriental extraction. PERCY and LAURENT, however, are of opinion, that it is to Europeans we owe the application of it to the substance, which forms the subject of this work. They observe, that the Portuguese were the first people, who called this mode of cau-

* Introduction, page xxvi.

terization, of which they were witness, in India, China, and Japan, by the name of *moxa*. The people of these countries, they say, rolled or twisted small cords of certain vegetables, almost in the same manner as we prepare tobacco for smoking. Each one was provided with them, and when he wished to cauterize himself, a small piece was cut from the end of one of the cords, which was sometimes applied by the individual himself; but more commonly by regular cauterizers (*Xiu Kieu*), and to which they set fire, in the same manner as smokers to their tobacco, which caused the Portuguese, who were witness to this operation, so novel to them, to observe, that they burnt themselves with a match, and consequently they gave the name of *Metchia*, *Motzchia*, *Moxia*, *Moxa*, *Mèche*, as well to the operation itself as to the material which was employed for it.

“The word *moxa*, they elsewhere ob-

served, is not to be found in the works of the Japanese and Chinese physicians, who call it *kieou*, and only use the term *moxa* before strangers, to whom they may wish to make themselves intelligible."

Before proceeding to an examination of the foregoing opinion, I shall observe, that a respectable writer, under this head, in Dr. Rees's Encyclopedia, says, that it takes its origin from Japan, intimating, that it is a term used in that ancient nation; but he offers not the slightest explanation regarding its primary signification.

A recent tourist in Scotland has, by what may be deemed accident, touched upon this subject, in a way rather ludicrous, it must be observed, but still in a manner not quite irrelevant to the point in question.

Dr. M'Culloch, the gentleman to whom the allusion is made, in apologizing to the Highlanders for applying the term *muck*,

in describing the *dark-coloured filth* around their cabins, offers a consolatory remark, that *muck*, instead of signifying any dark substance, ought rather to be understood, as in the Eastern parts of the world, expressive of something *white, like cotton*, thus, “*mok*, or *mokh*.”

However well informed, grave, or jocular on the subject, the above writers may appear, it will be, perhaps, more in conformity with the design of this publication to present the reader with an explanation which seems to me, at least, more satisfactory than any of the foregoing, because of its touching the subject somewhat more closely.

In a recent edition of RICHARDSON'S Dictionary of *Persian, Arabic, and English*, edited with great ability (1806) by Dr. WILKINS, in vol. i, p. 881, may be found, “*muhk*, abolishing, cancelling. Burning, being scorched. Not having the blessing

of God." In the next page may also be found, "*mahkuk*," erased, cancelled.

The facility with which the Persico-Arabic language, according to the intonation with which it is spoken, assumes variety of signification, from the slightest change in the oral organs, is universally known; and as the Portuguese had the earliest communication, in the course of commerce, with the nations in which that language was universally used, it may be supposed, without a great stretch of imagination, that they carried with them some of the most material terms of the language, to serve as a medium of communication with nations further to the eastward. Hence their intercourse with the people of China, Japan, &c. The *muhk* of Arabia or Persia might have served them to express their knowledge of that practice, which they had observed in those countries, substituting their term *moxa* for the Chinese

kieou. This construction is clearly borne out by the fact quoted in Dr. DUNGLISON'S introduction, before mentioned; for it is therein stated, that the word *moxa* is used by the Chinese and Japanese only before strangers, "*to whom they may wish to make themselves intelligible.*" As no such term occurs in the writings of the physicians of China or Japan, the conclusion may be fairly drawn, that the word in question was brought in by strangers, likely the Portuguese or Dutch.

As to the use to which the term *moxa* applies, there is strong reason to attribute its signification to expressing the action of intense heat; for the Portuguese, who were witness in China to this operation, observed, that the people *burned* themselves with a match, and, consequently, they gave the name *moxa*, which they had in other countries "applied as well to the operation

itself as to the material which was employed for it," and which they might easily coin out of the Arabic "muhk," which, as has been stated, signifies *burning*. It may be also observed, that the Arabic *u* is of the same sound as the short *o* in English; hence, whether written *muhksa*, or *moksa*, it is still the same term *moxa*, in pursuit of whose origin I have trespassed so long upon the reader's attention.

HISTORY OF MOXA.

THE word *moxa**, according to the inhabitants of *China* and *Japan*, designates a cylinder formed of a cottonous species of *mugwort* (*Artemisia Chinensis*). The date of its first introduction into notice, as a *therapeutical* agent, is not to be found amongst the records of its history ; but at the earliest period to which it can be traced, it was considered an infallible remedy in the cure of many diseases, particularly gout, chronic rheumatism, and nervous disorders.

* To prevent misconstruction, on speaking of the *application of heat, caloric, fire, or moxa*, they are all to be considered so many expressions meaning the same thing ; as the most ancient writers have not confined the latter word to any specific matter.

From China and Japan *moxa* was introduced into the western part of the continent of *Asia*; thence, amongst the Chaldeans and Egyptians, by whom, in progress of time, its use was in some degree modified. From these ancient nations this heroic remedy was conveyed into Europe, where, occasionally, or rather in proportion to the success of the practitioner who employed it, its virtues have been recognised or discredited. Its efficacy, however, has been acknowledged by almost every nation; yet the mode of preparing it for use, as well as the manner of applying it, have much varied.

The *Chinese* formed a small pyramid, by rubbing the dried leaves of the mugwort between the hands, for the purpose of obtaining the cotton from the fibrous part; a little very fine tow being made to project from its summit, which latter being lighted, the material was allowed to burn

down gently. The Indians were accustomed to form theirs of a species of rush, which was permitted to burn down in the same manner. The Persians employed goat's dung, dried and rolled into cylinders. The Armenians, the agaric of the oak. The Thessalonians made use of a particular moss. The Laplanders employed birch wood, in a rotten and phosphorescent state. The Egyptians, we have reason to believe, were the first who had recourse to cotton, and the civilized nations of Europe have successively adopted this material, with some modifications.

We have the testimony of Hippocrates, that the wandering Scythians were in the habit of cauterizing the shoulders, the arms, the wrists, the chest, the haunches, and the loins, for the purpose of dissipating rheumatic fluxions, which weakened those parts, and lessened their powers in bending the *bow*, or hurling the *javelin*. It is

stated by Linnæus, that the inhabitants of Swedish Lapland having no physicians, had recourse to no other remedy than fire, which was used with particular success in all complaints, accompanied by any degree of external inflammation. Such, for example, as ophthalmia, tooth-ache, affections of the head generally, and pleurisy. Prosper Alpinus asserts, that the actual cautery is regarded by the Egyptians, and still more by the inhabitants of the desert of Arabia, as an universal *panacea*. Amongst those people numerous persons are to be met with, bearing extensive cicatrices, from burns inflicted on various parts of the body; and with them the system is valued as a most important secret; important, because it effects cures in cases which resist all other remedial and medical resources. In China and Japan *moxa* is in such general use, that, according to Kempfer, all those who

are desirous to take care of their health do not neglect to employ the above means, at least once in six months. Ten Rhyne states, that in those countries the custom is so general, that even the culprits condemned to perpetual imprisonment occasionally enjoy the privilege of temporary liberation, for the purpose of participating in the benefits of the operation. The Japanese, it is said, in general, bear so many traces of the application of this supposed specific to the back, that one would imagine it had been entirely scorched. Each side of the spine, extending to the loins, is the part ordinarily selected by these people. The same means is frequently practised by the negroes of New Guinea in cases of epilepsy.

Thevenot and Belloni inform us, that the Turks and Armenians attach the greatest importance to *moxa*: and the first historians, upon describing America, after

the discovery of the New World by Christopher Columbus, attest that the employment of fire was not less known to the inhabitants of that vast continent than to those of the old world.

The use of cauterization was almost universal amongst the immediate successors of Hippocrates, who extended the practice in a very signal manner, having thereby obtained the most satisfactory results in the treatment of many maladies, which could not be otherwise controlled. The same practice became general also amongst the Romans at the epoch when the Greeks unveiled to them the mysteries of the arts and sciences, particularly that of physic.

Celsus recommended the use of fire in a great number of cases, but with that wise circumspection which his writings universally evince ; and it was said of him, that he conducted the application of

the remedy with a degree of pusillanimity ; a circumstance which has been attributed to deficiency of anatomical knowledge.

The modern Greeks, in their different schools, have not neglected to inculcate the burning system. Archigenes of Apamea, Aetius of Amydea, Aretæus of Capadocia, Paul of Egeina, Alexander of Tralles, Antyllus, and Cælius, Aurelianus, &c., have each called forth merited eulogium by contributing to perfect the practice.

The art of cauterizing attained the highest degree of celebrity amongst the Arabs, till, by frequent abuses, and misapplication, it at length lost much of its real reputation. Albucasis, in particular, speaking of the miraculous powers of heat, says, in seeming extasy, that he considers it a universal specific for all complaints ; he enumerates more than fifty species of disease

wherein he avers that its employment has been attended with success under his direction. He used more circumspection, however, than many of his compatriots ; for instance, Rhagès and Ali-Abbas, in whose methods he points out numerous errors. Cautiously avoiding blind empiricism, he saw the propriety of taking anatomy for his guide in the application of a remedy so singularly efficacious. In the course of his inquiries he made use of the following valuable observation, namely, that the direction of this remedy demanded, on the part of the surgeon, address, experience, and an exact knowledge of the constitution of the patient ; such as the state, the cause, whether arising from accident or otherwise, and the time when the disease had commenced, and consequently its duration. But, unfortunately, he multiplied to excess the modes of cauterization, and the cases in

which it should be employed; and his servile imitators being deficient in anatomical knowledge, dared not to diminish the number. This inconsistency increased, and the judicious application of fire, in consequence, became less generally adopted. Guy de Chauliac made such constant objections to its use, that it was much neglected in his time; notwithstanding the useful precepts of Amboise de Parè, the prudent circumspection of Fabricius de Aquapendente, the efforts of Spigelius, of Scultet, of Glandorp, and finally the remonstrances of Marcus Aurelianus Severius, one of the founders of modern surgery*.

Such was the effect of this change, that the practice of using fire became entirely done away, and an epoch arrived when

* Sydenham was, perhaps, the only man of consequence in this country who made much use of this remedy: he employed flax.

the actual cautery was not known, except as an instrument which attested the cruelty of the ancients.

The celebrated Dionis used every means to suppress this ancient practice in France, and our countryman Sharpe, it is said, was not less active in labouring for its extinction in England. After Dionis had succeeded in his wishes, the mentioning even of fire was offensive, till Pouteau undertaking to translate Prosper Alpinus, the Egyptian method was introduced into France.

The prejudices, however, which it had to contend against, induced its advocates to represent it under the most seducing aspect ; exaggerating its virtues, they described it as by no means painful, except when the agent was applied to excess : these misstatements were, of course, injurious to the character of the remedy.

In the year 1755, the Academy of Sur-

geons, in France, with a view of ascertaining the real advantages of fire in the healing art; the cases in which it was most likely to be successful; and the most efficient mode of applying it, instituted certain inquiries for the purpose. Professor Percy was elected to report from experiment and practice. Various modes of applying heat, from the concentrated rays of the sun to the actual cautery, were put into requisition; but as a full detail of the measures adopted would be rather tedious than useful, it may suffice to state here, that the investigation was favourable to the reputation and revival of this ancient remedy. Thus was again brought forward the most powerful and successful agent which we possess in the treatment of chronic disease.

In this country *moxa* is known by little more than name—a name too, which, from the impression it conveys, is not likely to recommend it to general no-

tice. Such indeed is the severity with which the operation is performed on the continent, where the remedy is in common use, that the objections held against it in England, both by practitioner and patient, are not much a matter of surprise. The circumstance of deliberately and slowly burning a part till an eschar is formed, must ever bear the semblance of rudeness and barbarity, whatever may be the result of the process. This, however, is not the only objection, another of far greater consequence exists, namely, that *moxa*, when applied to the extent and rapidity of a cautery, is not capable of effecting the same or equally important purposes which a gradual or slow process has the power of doing. This idea was conceived from a physiological consideration of the action of heat on the human body at various temperatures, and gave rise to a modification of practice, in which the author feels borne out by the result of the following

extraordinary cases, which, as they offered resistance to every other surgical agent, except the one now under discussion, will perhaps be considered the best proof in favour of the remedy, and of the mode of applying it hereafter to be explained.

For a more detailed account of the history of *moxa*, and the present mode of using it in France, the reader is referred to the *Dictionnaire des Sciences Medicales*, where much labour and research has been bestowed upon the subject ; and of which the author has freely availed himself in the above succinct account*. But as the plan about to be introduced here differs very materially from that alluded to, further comment, except such as may tend to illustrate the following modifications, are deemed inexpedient.

* In Mr. (now Dr.) Dunglison's translation of Baron Larry's Work, an extensive and interesting account of *moxa* is also given.

CASES

TREATED WITH MOXA.

CASE I.

IN 1821, whilst serving in India, Mr. R. H. C., an officer in the Royal Navy, had a severe attack of acute rheumatism, which more particularly affected the right knee. According to this gentleman's very accurate description of the case, there was violent inflammation; the symptoms having been great swelling, redness, heat, tension, uncommon sensitiveness, and severe lancinating pain. Various remedies were employed to no purpose; and the frequent application of blisters, it was believed, did much mischief. On his arrival in England, his general health had suffered

serious deterioration ; the muscles of the leg and thigh were much wasted, and the knee was still enormously swollen. It was supposed, that the local affection depended upon a generally deranged state of his health, and that by improving the latter, the former would subside of itself ; so physicians of eminence were consulted, till at length good health was re-established ; but without effecting the slightest improvement in the local disorder. The case being now altogether surgical, he had the advice of those men, who in reputation justly stand at the head of the profession : each pursued his particular plan of practice, and each in turn pronounced the case one not to be cured. In addition to all the common, and more probable means of success, *Mahommed*, of Brighton's, shampooing and medicated baths were tried. In this way two years were passed ; the chances of recovery be-

ing naturally diminished in proportion to the duration of the complaint : last of all, he was advised to relinquish every idea of public service — an advice which distressed him the more, as he was possessed of singular zeal and a laudable ambition to rise in his profession. Such were the outlines of this gentleman's case, and such were his prospects of recovery !

When consulted, I found the knee to be greatly enlarged, painful, and hot to the touch ; the enlargement being the more conspicuous, in consequence of great wasting both above and below the joint. There was scarcely any action of the leg upon the thigh, and the patella had no apparent motion, being bound down, I supposed, by thickening and condensation of the cellular membrane with which it was surrounded. On each side of the *ligamentum patellæ*, immediately under the inferior margin of the patella, a hard

mass of substance, about the size of a finger, and having a cartilaginous feel, greatly contributed to the fixed state of that bone; limiting the sphere of its natural action, and rendering its motion impossible. It was believed that a thickening of the ligaments, but particularly of the capsular, existed; and from the great degree of heat, as well as much sensitiveness, it was concluded that deep-seated inflammation was still going forward. With this impression, twenty-four leeches were applied, and the bleeding kept up by hot fomentations. On the second day following, the heat of the part being still above the natural standard, twenty more leeches were had recourse to; the fomentations were again used, and on this occasion a large bread poultice was placed round the knee. After this, evaporating lotions were persisted in, till the temperature of the affected part was re-

duced to par. Fearing now a sudden reflux of blood to the numerous enlarged vessels surrounding the knee, small doses of digitalis were administered; this appeared to answer the purpose effectually, so the application of *moxa* next became the remedy for consideration.

A small quantity of the *Chinese moxa* having been procured, about the size of a hazel nut, compressed between a pair of common dressing forceps, was lighted and held as near the part as could well be borne, till it entirely burned away; and this was repeated three or four times on each occasion of its application, which at first was three times a week, varying a little, the part over which it was placed at each repetition. To effect motion of the patella being an object of great importance, attention was more particularly directed to that. In general, therefore, the circumference of the patella was divided

into four portions, which were considered the most favourable for the action of the material under consideration.

After this apparent ordeal, which, in truth, was by no means painful, the knee was rubbed for fifteen minutes with camphorated oil ; a flannel bandage was then passed with moderate tightness, for the purpose of keeping up whatever new action in the absorbents and veins the *moxa* might have induced. Finally, manual efforts were used to extend the limb ; supposing that much of the stiffness depended upon a rigidly contracted state of the fibres of the flexor muscles. In a few days it was satisfactory to observe the advantages of this system ; for although the improvement was, at first, so slow as to be scarcely perceptible to the eye, we had assured ourselves of its reality, by applying a scale in the ham, and marking it up to the point gained. The circumference

of the knee was soon reduced; but the thickening of the cellular substance in the neighbourhood of the inferior portion of the patella was so indolent, that caustic issues were deemed advisable: this, however, did little except interfere with the more successful course, which had been previously commenced, and was consequently discontinued. Having expended all the foreign *moxa*, which could be procured in London, recourse was had to the expedient of substituting a piece of folded calico, which, being lighted, was kept burning by means of a pair of bellows, after the manner in which this remedy is usually applied in the Parisian hospitals; but this being objectionable, on account of the intense heat which it caused, as well as a most acrid and offensive smoke, a composition, resembling the Chinese *moxa*, was obtained from Paris: this secured the

preference, and being easily imitated, a similar preparation was continued *.

Attention was directed to every part of the knee in which pain was felt, on making extensory motion, but more particularly to the patella, until it had acquired nearly as much freedom as in the natural state ; at which time the muscles of the leg and thigh had filled out, flexion and extension were almost complete ; in fact, the parts surrounding the knee presented nearly their proportionate form and pliability : finally, walking, dancing, riding, and the

* This preparation is made by dissolving one ounce of nitrate of potass in a quart of water, and therein saturating a quantity of fine cotton wadding, which being dried and formed into small parcels, is enclosed within paper cylinders, about half-an-inch in diameter, and one inch in height. It burns in an extremely slow and gentle manner ; and only requires being kept dry, to be fit for use at all times. I do not know any substance so well calculated to fulfil the purposes for which this is employed.

hot baths of Brighton, were practised as a wind-up to the cure. For the last fortnight the *moxa* heat was applied daily, and its influence directed as much as possible under the patella, by elevating its edge, and moving it as much as possible from its confined situation.

To show that *moxa* was the important agent of cure in this case, it is right to state, that blisters, camphorated mercurial ointments, mercurial plaisters, friction, shampooing, pressure from straps, the occasional application of leeches, and a variety of other well-known measures, had been separately and fairly tried, but without avail.

A few weeks after this gentleman had recovered the entire use of his limb, he had the gratification to be again employed in the public service; and has since enjoyed the best of health.

CASE II.

Mrs. B. had a rheumatic fever, which more particularly affected the right wrist, and caused serious injury to that joint.

On being consulted, I learned that the case was of two years' standing, and that almost every surgeon of great notoriety in town had been advised with, respecting it. Various means had been resorted to; even Mahommed's baths; in short, very nearly the same variety of practices was gone through, as in Case the First; and as in that the mischievous effects of blisters were particularly conspicuous.

On examination, I found flexion and extension perfect, but the rotatory motion of the forearm was defective, and action between the forearm and carpal bones was altogether wanting. The muscles were so much weakened from having been long idle, that an empty *tea-pot* could not be

raised without the assistance of the other hand ; nor could that particular motion be performed which the use of the spoon requires.

It was now, and it appears with reason, believed, that, independently of thickening of the capsular ligament, that the excitement of the blisters, as well as the rheumatic attack, had induced the secretion of an inordinate quantity of coagulable lymph, which being thrown between the interstices of the neighbouring muscles, greatly conduced to the rigid state of the joint. From this view of the case, it next became a consideration, what muscles were most employed in the motion of the forearm, which was here defective : this brought to recollection the *pronator quadratus* and *supinator radii teres*, as the most powerful in effecting pronation and supination ; in addition to which it was ascertained, on inquiry, that during inflamma-

tion, pain was more acutely felt in the direction of the latter-named muscle than in any other part of the forearm. By this the practice was regulated, and the *moxa* was applied to these particular muscles for the purpose of relaxing their contracted fibres, dissolving the probably long-deposited coagulable lymph, and exciting the dormant absorbents. Three or four cylinders of the composition were every day applied, and shampooing was practised for the purpose of restoring the natural rotatory action of the forearm and wrist. Strongly camphorated oil was applied by means of friction, and a small flannel bandage was passed for the purpose of keeping up the increased action thus excited. In the course of three days an amendment was perceptible ; and at the expiration of fifteen days the powers of the arm were almost perfect : in short, nothing further appeared necessary to complete the cure.

but perseverance in exercising the muscles, for which instructions were given ; the lady being now going abroad.

This case strikingly illustrates the importance of *myological* knowledge in the treatment of stiff joints ; and very clearly points out, that a mere acquaintance with the relaxing powers of heat is not sufficient for its success in practice. Had this remedy been applied to the wrist only, in the above cases, it would have decidedly got into disrepute, through misapplication ; and, perhaps, there are not a few who would have directed their sole attention to that part, as being the apparent seat of disease.

CASE III.

A LADY of high rank had an arm lame for eight years — the following are the outlines which were given : —

After *accouchement*, a train of symptoms and circumstances, the description of which would be superfluous here, preceded and gave rise to violent inflammation of the arm: the back of the hand, the wrist, and the internal part of the arm, near the elbow, suffered more particularly.

On examination, I found the hand to be bent inwards, upon the forearm, forming an arc of about an inch and a half in depth. And on passing the fingers along the forearm, in the direction of the *flexor sublimus perforatus*, the centre of that muscle was found to be much contracted, having formed several distinct indurated projections; at its origin there was a mass of contracted muscle. The elbow joint was perfect, but that of the wrist admitted not of the slightest perceptible motion. All the fingers of this hand were more or less stiff; the middle finger was com-

pletely so, and was, frequently, a cause of great annoyance, by striking against hard bodies, such as doors, tables, chairs, parts of the carriage, in getting into it, &c. &c. The power of extending the fingers one from another was greatly limited. From these circumstances her harp, which was formerly, to this lady, a source of the greatest delight, had stood quite idle during the long period of the above misfortune ; the *piano*, which was less difficult, though less a favourite than its companion, became a substitute in consequence ; and was surprisingly executed upon by the increased powers which practice gave to the left hand. From the advantages of wealth and liberality, this case had not suffered for want of numerous medical opinions, and the full trial of varied means of cure in this country, as well as on the continent ; where, finally, it was given over as a hopeless case, and had not since that

period, a space of six years, undergone any treatment.

The practice commenced by applying daily three or four *moxa* cylinders at regular distances, in the direction of the *flexor sublimis perforatus*, followed by friction with camphorated oil, and also mechanical extension. In the short period of a week motion was perceptible at the wrist, and the masses of thickened fibres from this time began to disperse. Much friction and shampooing were now had recourse to, as well as the application of the moxa to all the joints of the fingers, and the whole course of the above described muscle. After conducting the practice in this manner for some weeks, cork splints, neatly padded and covered, were brought forward as an additional auxiliary. The other processes having been gone through, they were applied daily, and allowed to remain on for the space of half an hour. These

splints had the peculiar advantage of accommodating themselves, in some measure, to the resisting force of the muscles opposed to them; and being secured by straps, easily admitted of an increase or diminution of the extending power. In this manner the flexor muscles were soon greatly relaxed, and the fingers acquired a proportionate degree of suppleness. The action of the wrist, however, was still beyond the control of the muscles; a certain degree of force being yet necessary to effect the motion which had been thus acquired.

It was now presumed that ossific union between the articulating extremities of the ulna and radius and the carpal bones had taken place, but that this new bony connection had only acquired a degree of solidity proportionate to the period which had elapsed since its deposition; thus accounting for the motion at the wrist,

which was similar to the elasticity of the bones of children : hence, further attempts to *cure* this joint were laid aside, and undivided attention was directed to the fingers, and those muscles under whose more immediate influence they are in the healthy state. *Moxa* was applied to the respective joints of each of the fingers, followed by friction and shampooing. This system was regularly persevered in, with very few remissions, during a period of five months ; at the end of which time, every finger had acquired its long-lost pliability, the arm had restored to it again almost all its former symmetry, and this lady had the gratification of being able, once more, to resume her former favourite amusement in music.

It will be admitted that but little pain was inflicted, when it is stated, that the heat was generally applied during the time of breakfast.

CASE IV.

MR. L—— had a stiff knee-joint for nearly seventeen years. On examining it I found that the leg, as nearly as possible, formed a right angle with the thigh ; there was not the slightest perceptible motion at the joint, and the patella was drawn up considerably above its natural situation, apparently united to the femur by an ossific union. The muscles of the leg and thigh were considerably wasted, and above the external condyle two extensive cicatrices bore testimony of much former disease.

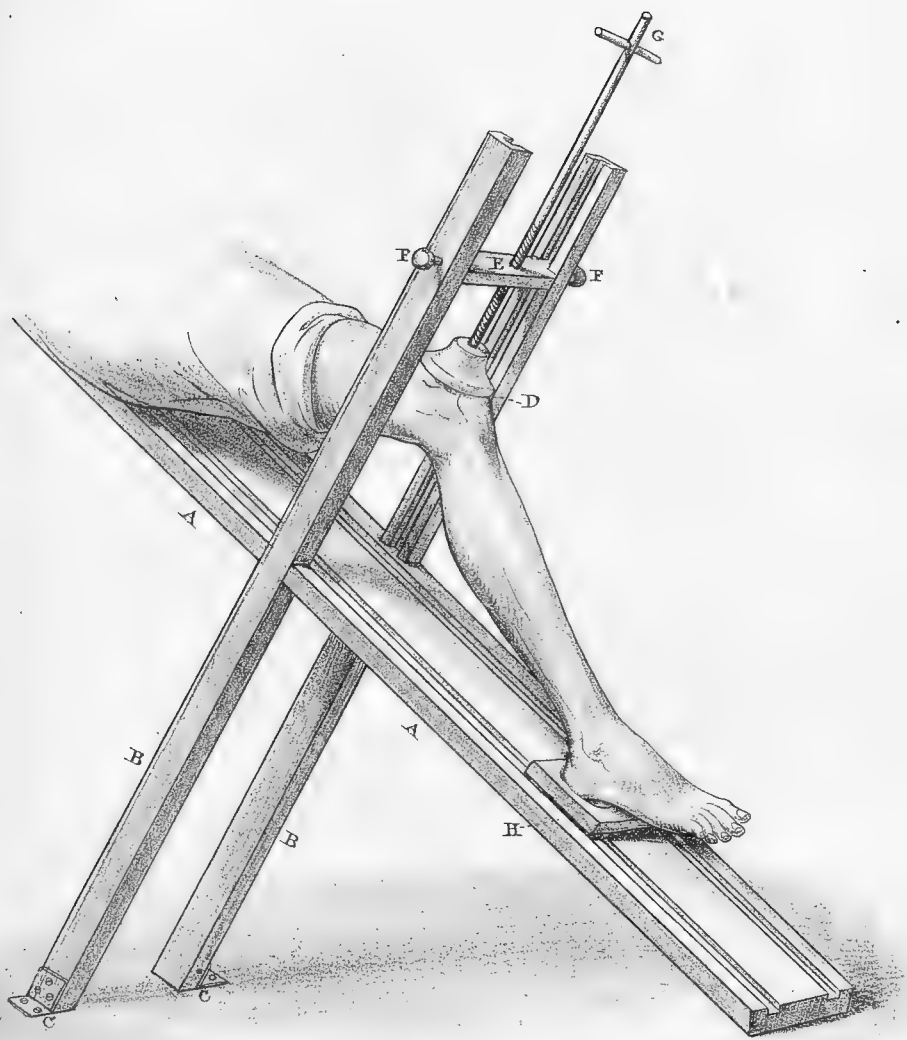
It was stated, that when the complaint was in its active stage, the health suffered so seriously that life was despaired of, and the removal of the limb was frequently advised. At length, however, a favourable change took place ; the health improved, and nature effected a cure at the expense

of a stiff joint. Anxious to remove this, Mr. L—— first had recourse to Grosvenor's rubbing system, which was zealously persevered in three or four hours daily for a period of six months ; but without its being of the slightest service. Ointments, liniments, and plaisters of various descriptions, the mud baths of Switzerland, and the baths at Brighton, with shampooing, were amongst the vast number of remedies, which at different times were employed.

But little hope could be given or entertained in such a case as the above ; yet, as it was impossible to say whether or not a *true anchylosis* had taken place, it was deemed right to make trial of powerful measures in addition to the application of heat ; in furtherance of which I invented an instrument that may yet become of great importance with the medical public. And as none such, hitherto

brought into notice, appears to possess the advantages of the one in question, namely, pressure without obstructing the circulation, a plate of it (No. 1) is given ; and the following outline, descriptive of its mechanism, is deemed necessary : —

A board, about three feet and a half by eight or ten inches, raised superiorly to the height of the patient's chair, having let into its sides, at a distance to correspond with the knee, two strong wooden feet, or stanchions, by which it is fixed to the floor, and kept in that situation ; the feet projecting about twelve inches beyond the part of the inclined plane with which they come in contact ; and having cut into them, superiorly, a groove for the passage of, first, an excavated piece of wood, for the purpose of making pressure upon the knee ; it being padded to avoid pressure on the patella,



H. del et lith

Index to Plate 1st

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- AA. Inclined Plane upon which the Limb is placed.
- BB. The feet supporting the Plane &c.
- CC. Small Hinges for the purpose of securing the Feet to the Floor.
- DD. The excavated and padded piece of wood placed upon the Knee.
- EE. A Transverse Piece of Wood through which the Hand-Screw passes, and which becomes a fixed Point for the action of the Screw upon the excavated piece of wood.
- FF. Two small Screws securing the transverse piece of wood.
- GG. The Hand-Screw.
- HH. A Piece of wood mounted upon Castors, and excavated to receive the Foot, and carry the Foot downwards, on pressure being made upon the knee, by turning the Screw.



and with the intention of throwing the weight equally upon the extreme ends of the bones forming the joint. Into the centre of this, superiorly, an iron socket is inserted, upon which the extremity of a hand-screw acts; this being steadied by passing it through a second piece of wood adapted to the groove, in the same manner as the one just described.

About the middle of the inclined plane are two other parallel grooves for the passage of four small brass castors, supporting a carriage, upon which the heel is intended to rest. When the limb is placed within the instrument, and its different parts applied, the patient has only to turn the screw till pressure is effected; at which time, if there be the slightest possible motion in the joint, it will be observable by the heel immediately starting from the force applied.

By the instrument thus composed, the

anticipated result was exemplified in the most satisfactory manner on the first trial. Just as the pressure was increased, so did the heel, in proportion to its limited powers of extension, gently glide along the plane.

From four to six *moxas*, more particularly round the circumference of the patella, were applied daily ; and friction, with camphorated oil, thrice in the course of the day was practised : the limb was submitted to the action of the instrument, immediately after the application of heat, regulating the degree of pressure by the feelings of the patient ; this apparatus was used in general from one to two hours.

In a few days the patella acquired perceptible motion, which excited a faint degree of hope ; enough, at least, to induce perseverance. In a few weeks the motion of the patella was considerable ; that of the knee was increased in suppleness, but

in extent very little: this little, however, was of practical utility, as more than half an inch beyond the former mark upon the sole of the boot was now brought in contact with the ground in walking. Latterly, this gentleman, by himself, rigidly pursued the different modes of treatment which have been stated; and at the expiration of four months from the commencement, the time when I last saw it, the patella was almost as free as in the natural state. The figure of the knee was greatly restored by reduction of its size, from the action of the *moxa*, but there was not sufficient extension of the limb to induce the belief that the case was not one of *true ankylosis*; the slight degree of action noticed at the joint, depending most probably upon the pliability of the recently-formed connecting bone.

This case is recorded, not on account of any great good which the patient derived

from the use of *moxa*, but because I believe it is additionally illustrative of the wonderful powers of that remedy, particularly by giving free motion to the patella, which had been confined *seventeen years* ; and, in my opinion, gives sufficient evidence, that had this been a case of false, instead of *true ankylosis*, it would have been effectually cured by the means employed.

CASE V.

MR. F. R. consulted me on account of a painful enlargement upon the index finger of the left hand, which was the consequence of a prick of a thorn, and was the cause of considerable uneasiness.

On examination I found enlargement and thickening of the tendinous sheath ; and a great degree of sensitiveness was

experienced on pressure. There was also an enlargement at the articulation of the middle finger with the metacarpal bone, which had rather a gouty appearance, and at times was very painful. To remove both which, a variety of means had been tried, but without effect.

The application of sometimes three, and occasionally four *moxas* daily, for a few weeks, aided by friction, with a camphorated liniment, entirely removed the latter enlargement, and so reduced the former, that it was no longer perceptible to the eye: not the slightest degree of pain remained; yet as, on very minute examination, a moveable hardness, about the size of a pin's head, could be felt, and this gentleman wishing to be perfect, as he jocularly termed it, was desirous of trying any other means which I might suggest for its removal. Thus, blistering, pressure, and friction, were practised, but

without producing any further change than that which the *moxa* alone had effected, and which, in fact, was all that comfort, or the appearance of the part demanded.

CASE VI.

Mrs. S., after lying in, was attacked with inflammation in the lungs, which subsided on the supervention of a violent inflammatory affection of the left knee, to which suppuration succeeded: the abscess burst immediately behind the external condyle of the femur, and immense quantities of matter continued to escape for a great length of time.

When I was consulted, about eighteen months from the commencement of the complaint, the joint had been pronounced *anchylose*, and a surgeon of the first re-

putation, for whose opinion this lady had come to town, declared, that every effort to cure must be abandoned as injurious or useless, and recommended a high-heeled shoe. This decision, as may be supposed, coming from a man of eminence, greatly distressed this unfortunate lady, who, yet a young woman, and in other respects tolerably healthy, was now sentenced to be a cripple for the remaining part of, perhaps, a long life.

On minutely examining the joint, I could distinguish an extremely slight degree of motion; the patella was drawn towards the outer condyle, very considerably out of its natural situation; admitting, however, of being moved to a trifling extent. On the inner side of the knee there was considerable swelling, depending, most probably, on a condensation of cellular substance, and thickening of the capsular and internal lateral liga-

ments. Externally a cicatrix marked the original situation of the abscess, and bound down the flexor tendons, going to form the outer hamstring: this, no doubt, was also the cause of the patella being drawn out of its natural situation. There was no sensation of morbid heat in the knee, but so much sensitiveness in its anterior part, that any sudden concussion caused acute pain; in consequence of which she hobbled about her room but very imperfectly on crutches, being totally unequal to the task of going up or down stairs without being carried. In this case there was an apparent predisposition to increased arterial action, and sudden translation of disease; to repress which it was deemed advisable to administer digitalis, during, at least, the first week of applying heat; and as the stomach was delicate, some antibilious pills were afterwards prescribed. Five, six, and sometimes seven

cylinders of the *moxa* were applied daily ; after which the knee was *shampooed*, and friction, with a camphorated liniment, was next practised for about a quarter of an hour.

In a few days the limb felt stronger, and the lady could go up and down stairs by means of her crutches. An instrument similar to the one shown in Plate 1st, was now recommended, by which gradual pressure, to any extent, could be effected. By using a little force, considerable extension of the leg could be made; great caution, however, was deemed necessary, lest, from the peculiarity of constitution noticed in the early part of the case, secondary inflammation might be induced. The state of the joint, and the muscles connected with it, were so altered; that in a few weeks this lady was able to move about her room with one crutch, or leaning only upon her servant's

shoulder. In this state of progressive improvement, after seven weeks of the above treatment, it was regretted, that, from family arrangements rendering it necessary to return to the country, this patient was lost sight of. I, however, learned, some time after, that motion in the joint continued to increase under the use of the instrument alone. The general health of this lady was undoubtedly improved by the increased action of the limb, attendant upon her treatment.

CASE VII

MR. T. had been subject to gout for some years, at tolerably regular intervals, but for the last twelve months, previously to consulting me, had been distressed by constant pain at the second joint of the left toe, which was greatly increased by

standing or walking. The constitution was good, and there did not appear to be further disturbance in the health than that which might naturally be expected from so constant a source of uneasiness. On remaining idle even one day, the painful sensations were greatly lessened; but as this gentleman, from the nature of his business, was obliged to be much on foot, such indulgence could but rarely be enjoyed. The toe was somewhat swelled, and had a dark livid appearance; the affected joint appeared to be blocked up by deposition, and any attempt to move it gave exquisite pain, which was described as passing along the whole extent of the extremity, with the rapidity of an electric shock; and leaving, for some little time after, a dull or lifeless sensation in the muscles of the limb. On drawing the finger along the back of the toe, the red colour was for a moment lost, a white

line in the course of the pressure appearing in its stead, but which, on removing the cause, as quickly dissappeared. After a very long walk the pain was excruciating; more like *tic doloroux*, perhaps, than any other sensation to which it could be compared. Many remedies were tried; at one time narcotics and soothing applications; at another topical blood-letting, cooling applications, and low living; occasionally alteratives alone; or good living and stimulating liniments: camphorated mercurial ointment, with friction and blisters, were often used to no purpose, whilst *colchicum* and *eau médicinale* were equally unavailing.

Believing that the painful sensation described above depended upon the pressure of some extraneous matter, deposited within the joint, upon a nervous twig, it was proposed to apply *moxa*, with a view of exciting the absorbents and veins to

increased action, commensurate with that of the arteries ; and thus, if possible, restore the healthy functions of the part affected. In pursuance of which three cylinders of the composition were burned as near the seat of pain as could well be borne, endeavouring to avoid raising a blister ; camphorated spirit was afterwards used, and a small flannel bandage was passed round the toe. On the second day following, these measures were again willingly resorted to, the patient having experienced considerable mitigation of pain, and slight diminution of the swelling. This practice was continued on alternate days, for three weeks, when, with the exception of a slight induration at the joint originally affected, all trace and symptoms of the complaint were removed.

CASE VIII.

Miss R—— consulted me regarding a painful sensation commencing in the right groin, extending to the toe. The following is a description of the case, which I think right to state in nearly the young lady's own words.

“ The first time I felt the pain was about ten or twelve years ago ; it came on *then* only after walking, it was not very acute, and generally went off after a short rest. On this occasion a blister to the part, rubbing it afterwards with flour of mustard, quite cured it. The present pain came on about four or five years back ; I think I felt most of it at night ; when I slept on my right side I was in general suddenly awoke by acute pain, and a cold or numb sensation extending over the whole limb. I had but one posture in bed, in which I was easy, and this was on the

left side, inclining to my face, so that this limb might be quite separated from the other. If I happened to turn in my sleep, the pain awoke me: except on the right side, lying on the back was the most uneasy posture. The pain has always commenced at the upper part of the thigh, descending in the direction of the outer side of the leg till lost at the toes. A tight shoe or boot brings on pain; and pressure on any part of the limb, though not at the instant, brings it on in a minute or two. At times I can feel an enlargement of the muscles in front, particularly after fatigue; the veins are then much more conspicuous than usual; it is only after fatigue that any degree of stiffness is experienced in the limb. I am now subject to head-ache: calomel does not agree with my constitution, remarkably small quantities having induced salivation and ulcers in my mouth. Mercurial ointment

caused great irritation, but no relief from pain. *Bella donna* plaister very violently affected me, and I have never, although it is a year since I employed it, quite recovered from the consequences of its use. Three several plaisters were applied, the first caused loss of memory and stupor, which were increased by the second, and the third very nearly deprived me of life, having for the time greatly injured my sight and deranged my intellect; on their removal these symptoms subsided, but lowness of spirits impaired recollection, and head-ache followed. My spirits were naturally good, but, from strong medicines and continued irritation from plaisters and other applications, I have become very nervous, and have felt a great degree of debility; and when I have taken tonic medicines, they have deranged the bowels so much that I have been unable to continue their use. I have taken many dif-

ferent preparations of bark, of which I do not now recollect the names. The last medicine which I took was *morphine*."

On interrogation I found that the above description was sufficiently clear to induce that opinion, which from after-examination and inquiry I believed myself to be justified in giving*.

The painful sensation, from which this young lady was so great a sufferer, was

* " Lorsque les mouvements convulsifs et habituel de certains muscles (ce qui carecterise le tic douloureux) sont devenue chronique quelle qu'en soit la cause ou sont le resultat d'une cause mécanique qui a affaibli le tissu du nerfs des ses muscles, le moxa est parfaitement indiqué; mais il doit être appliqué le plus pres possible du siege du mal, et sur le trajet du nerfs légés. Cet lesion consiste dans l'engorgement chronique et inflammatoire du nûrilème qui enveloppe les nerfs de la partie affectée. Ce remède porte une excitation sur les organes, opère ainsi derivation salutaire du principe morbide qui en altère le tissu et y rétablit le cours du fluide nerveux."—*Recueil de Memoires Chururgie, par le Baron D. J. Larry*, p. 20.

entirely influenced by posture, pressure, and exercise, commencing in the groin amongst the inguinal glands, and thence gradually descending in the direction of the *vena saphena*, first to the knee, and finally, but more irregularly, as to time and course, to the toes. When the leg and thigh were extended, by lying upon the back or upon the right side, the painful sensations were more acutely felt, and much walking or long standing had also the same effect; whilst, on the contrary, placing the limb in the bent position, by its crossing the other, when lying on the left side, these symptoms, if not altogether removed for the time, were greatly diminished. From a consideration of all these circumstances, there appeared no reason to doubt that an interruption of nervous influence was the cause of the complaint, and that this, most probably, depended upon an enlarged lymphatic gland, or a

thickened and indurated state of the cellular membrane, in which the glands of the groin are imbedded, pressing upon the crural nerve, as it emerged from the abdomen. On examination, however, no one of these glands, in particular, could be said to be the cause, else its removal would have been proposed: but it was ascertained, that a swelling in the groin, from cold, had existed for some time previously to the commencement of this complaint, which greatly strengthened the inference, that at first was made, although the immediate cause could not be more precisely pointed out. A trial of *moxa* being agreed to, four cylinders were daily employed, two over the course of the crural nerve, as it descended from the abdominal ring, and two on the site of the great ischiatic in the ham. After the first application, the lady believed she slept better, and that on the following day less uneasiness followed the

usual exercise; every day's experience proved that the result was not imaginary, and at the expiration of sixteen days any position could be assumed without pain. On taking a long walk, a dull sensation only was experienced.

This lady was obliged to return to the country at the time I took my leave of her, and I have not since had an opportunity of making inquiry, as to further result; but I have every reason to believe that the case has continued to do well, otherwise I should have heard to the contrary.

CASE IX.

Miss B., a most interesting young lady, aged fourteen years, was put under my care on the 14th June, 1824, for the treatment of a hip joint affection, and an incurvation of the spine; having been

previously consulted at Brighton, when the following account of the case was given : —

In the latter end of 1819, Miss B. experienced a dull pain in the left hip, passing along the outer side of the thigh, till lost at the knee ; this, at first, was supposed to be a growing pain only, consequently attracted but little attention. After a little time, however, the face was frequently observed to become suddenly pale ; the bowels became deranged ; the appetite became affected ; and acute pain was felt in the joint, in the erect posture ; on being placed in the recumbent position, on the contrary, there was no pain. A stimulating liniment was first applied, and tonic medicines were administered, till at length, the complaint having assumed a more serious form, confinement to the horizontal posture, and a perpetual blister were deemed advisable. These measures

were persisted in, till pain and the symptoms of inflammation were removed, when an attempt was made to walk, but unfortunately this could not be performed; stiffness of the hip joint, and contraction of the knee, with very considerable diminution and rigidity of the muscles of the affected limb, were now the consequence!

Friction, the warm-baths at Brighton, shampooing, and attention to the state of the bowels, were resorted to; the result of all which were improvement in the general health, relaxation in the knee, and a more healthy state of the muscles; but no improvement in the state of the hip-joint. There was not at any time hectic fever, or symptoms which, in my opinion, characterized ulceration of cartilage, absorption, or caries of bone, or further structural change of parts than what might have resulted from common inflammation.

In consultation with a medical gentleman, at Brighton, the following were, as nearly as possible, the appearances, and the opinions to which these appearances gave rise.

On standing up, the hips projected very considerably, in consequence of an abrupt anterior curvature of the spine, commencing at the articulation of the last lumbar vertebra with the sacrum, and extending to the first or second lumbar vertebra. The right hip, or that of the sound side, projected much beyond that of the left; depending on a bent position, forwards, of the thigh upon the pelvis. On Miss B. being placed on her back, the left thigh could be bent to as great an extent, forwards and upwards, as that of the other; and in this position there was no difference in their length, which certainly could not have been the case, had the head of the femur obtained a new situation, either

superiorly or *inferiorly*: there was rotatory motion, both inwards and outwards ; hence it was inferred, that no lateral dislocation or change of position could have taken place. Further, on placing the fingers between the heads of the *pectinalis* and *sartorius*, and making motion with the thigh on the pelvis, it was believed that the head of the *femur* could be distinctly felt rolling in the ACETABULUM. On attempting to extend the limb, an obtuse angle was formed: on an attempt being made to lessen the angle, whilst placed on the back, the trunk was elevated in proportion, the head of the bone acting as a lever. From all which circumstances it was evident, that no ankylosis existed ; that the obstruction was partial ; and that it was confined to the anterior superior part of the joint. The muscles were in a perfectly healthy state, but much smaller than those of the opposite extremity, as

might be supposed, from having been so much less employed. In walking, Miss B. inclined greatly to the left side, in consequence of the contracted state of the affected extremity ; from which the right hip projected laterally, in an ungraceful manner. This great inclination to the affected side was, no doubt, increased by efforts to avoid the concussion attendant upon suddenly throwing the weight of the body from its perpendicular state, when supported by the healthy limb, upon that, which, from debility, was unable to support it. It was further believed, from this investigation, that rigidity, and shortening, perhaps, of the *ligamentum teres*, as also great thickening of the capsular ligament had taken place, consequently lessening the diameter, and the natural motion of the joint ; and that contraction and wasting of the muscles depended, first, upon position during confinement to bed, and comparative want of

exercise afterwards ; that the spinal curvature was a secondary affection ; the balance of power, between the abdominal and dorsal muscles, having been broken, by the greater employment and consequent counteraction of those of the abdomen, in efforts to avoid pain in the affected extremity ; and, finally, that the shortening of the limb was only apparent, depending entirely on its bent position.

With these views of the case, I proposed the following measures : exercise, not amounting to fatigue ; when tired, to obtain rest by a reclined posture, and thereby prevent the ill-effects of the superincumbent weight of the body upon the spine, whilst the dorsal muscles were in a state of exhaustion ; and that the daily application of *moxa* should be practised over the head of the femur, for the purpose of exciting absorption, and relaxing the *probably* thickened capsular ligament, and surrounding condensed cellular substance ;

moxa also, in the same manner, to be applied immediately over the articulation of the last lumbar vertebra with the sacrum ; to be followed by friction with camphorated oil over the dorsal muscles, and the flexors of the thigh, in the neighbourhood of the obstruction. Two broad straps were next to be passed round the body, for the purpose of securing it to an inclined plane, and preventing resistance on endeavouring, by gradual pressure, to extend the limb : finally, a swinging motion of the affected extremity, with a heavily leaded shoe on ; Miss B. balancing herself upon the right foot, and keeping herself erect, by hanging, as it were, by the left hand, from a brass hook, fitted for the purpose, just within reach, above the head. Thus the whole of the muscles of the affected side were intended to be forcibly brought into action.

This practice having been adopted, and continued for a period of between two or

three weeks, an evident improvement was observed ; the limb admitted of a greater degree of extension, and the hips were, in consequence, nearly equal in size : half an inch, at least, was cut from the patient's high heeled shoe, and still the foot could be brought to the ground with equal ease. There was yet, however, much anxiety and doubt as to the result of the case, which being occasionally, naturally enough, heightened by private opinions, another consultation was proposed — the question at issue being, whether a dislocation did, or did not, exist*.

The gentleman called in, a surgeon of great experience, after a minute examination, believed that the head of the femur had acquired a new situation — a change of position *not amounting to a dislocation* : that, in fact, caries and absorption of the external *epiphysis* of the *acetabulum*.

* It was privately stated that there was a dislocation.

bulum had taken place ; in proof of which, the *trocanter major* was demonstrated as being lower and further back than that of the opposite side. Admitting this appearance, I attributed it to the circumstance of the greater elevation of the inferior extremity of the thigh bone (bent forward as it was upon the pelvis), and a consequent depression of its head and *trocanter*: as regarded the state of the brim of the *acetabulum*, it was not easy, except by reference to early symptoms, to prove what it was ; so, as the opinion offered was irrelative to the important question, *whether a dislocation did or did not exist*, no particular objection to this opinion was deemed necessary ; although a review of the circumstances of the case, and the result of the treatment, assuredly do not justify any such opinion.

In the early stage of the complaint there were neither hectic fever, sleepless nights,

nor copious perspirations. And when we consider the magnitude of the head of the femur, and the great convexity of the *ilium*, were even the external *epiphysis* of the acetabulum destroyed *in toto*, it will appear difficult to mistake this for any other position ; unless, indeed, so much of the *ilium* were destroyed that a new acetabulum was formed ; a circumstance extremely improbable without the usual precursory symptoms. Further, had this really been the case, on Miss B.'s first attempt to walk, a painfully grating sensation would have been experienced by the rough surfaces of the bones having been brought into actual contact.

It having now been finally decided that there was no dislocation, the same plans of treatment were continued, and improvement in every respect rapidly followed : about the sixth week, the change was very conspicuous ; and, on the seventh week,

when confined to the plane by straps, the limb could be nearly brought to its natural position, by using a moderate degree of force. The high heel was now entirely removed, and the foot could be brought to the ground with a very trifling lateral inclination of the body. The spinal curvature was very much diminished, and there was no longer any disproportion between the size of the hips. At this time, a person having been properly instructed to conduct the practice, the most rigid perseverance was enjoined — gradual improvement has since continued ; and, extraordinary as it may appear, to those acquainted with the case, this young lady has, for some time past, been taking lessons in dancing. She still continues the use of the various measures enumerated, and confident hopes are entertained, that all deformity will be eventually and effectively removed.

CASE X.

MR. M. consulted me on the 16th July last, respecting swelling and pain of the right knee, which had commenced four months previously, accompanied with rheumatic symptoms. Cupping and blistering were first practised; the former lessened the swelling and inflammation, but the latter, in this gentleman's opinion, rather increased than diminished the pain and stiffness. Friction, with camphorated mercurial ointment, was finally adopted, and continued for a considerable time without benefit.

This gentleman was young, and apparently in good *general* health; there was no evident inflammation round the joint — but in its interior, a sensation of obstruction, and acute pain when walking or standing upon that limb. Four, five, and

sometimes six cylinders, of the usual composition, were burnt round the site of the articulation, followed by friction, with a stimulating liniment. On the day following, the gentleman expressed himself, confidently, of having been relieved, and after ten similar and successive, or daily applications, all pain and rigidity of the joint were effectually removed.

CASE XI.

MISS C.* submitted her case to my care, it being a stiff ankle-joint, and rigidity in the knee of the same side, the right, and loss of motion of all the fingers, then of about eighteen months standing, originally

* This lady's case was deemed, by Mr. BRODIE, one in which *moxa* would be advisable, and he, with his usual liberality, recommended it to my care.

induced by a combination of gout and rheumatism.

The foot was turned inwards, as represented in Plate the second; the toes pointing so directly downwards, that those parts of the foot only could be brought in contact with the ground. The tarsal bones were much separated by this extraordinary position; the *os cuboides*, in particular, being so conspicuous, and distant from the articulating surfaces of the surrounding *tarsal bones*, that its natural connections appeared to be entirely destroyed. There was no voluntary action in the joint, but on using a certain degree of force with the hands, motion, *to a very limited extent*, could be effected in either direction. The muscles of the leg were wasted in a trifling degree, but relaxed and free from obvious disease. It would appear, that, during the inflamma-

tory stage of the complaint, there was spasmodic contraction in the muscles forming the *tendo achillis*, which, dragging the *os calus* upwards, at the same time pointed the toes ; whilst the inclination inwards was caused by the patient bending the foot in that direction to avoid pain, which attended the reverse of this position. The tarsal bones thus separated to their greatest possible extent, admitted convenient cavities for the lodgment of coagulable lymph during and after acute inflammation, which, most probably, by blocking up the interosseous spaces, prevented the foot from taking its natural position, even after spasm and inflammation had entirely subsided. The knee was swelled, and deprived of its full power of flexion by, it was supposed, thickening of the cellular membrane, surrounding the *ligamentum patellæ*. The fingers, in addi-

tion to being stiff, had a shining glassy appearance, and were rather enlarged at their joints. The appetite was bad, and there was extreme weakness in all the joints. A vast variety of medicines and mechanical measures were tried, and friction was employed nine months: the hot baths of Brighton were supposed to have done much mischief, by causing determination to the head: Harrowgate waters were taken without benefit, and the instruments used were ineffectual. An instrument was planned by me, for the purpose of throwing the foot outwards, and assisting the use of the *moxa*, which was immediately commenced over the capsular ligament, uniting the tarsal bones to the extremities of the *tibia* and *fibula*. The instrument alluded to, however, was not had, first, from disappointment of the machinist, and next because the foot was becoming

rapidly straight without its use. *Moxa*, *shampooing*, and friction, were daily practised for three weeks, when the foot, from what is represented in Plate the second, had acquired its natural appearance and position ; the swelling of the knee and stiffness were reduced, and the action of the fingers was being gradually recovered. But, unfortunately, it became necessary to suspend this treatment, in consequence of the slow approach of a train of nervous symptoms, of a nature similar to former attacks, under which the lady finally sunk, after an illness of about three months.

The physician who attended on this last occasion, has had the kindness to inform me, that *retraction*, to a greater degree than formerly, and *exostosis*, took place previously to dissolution.

CASE XII.

ELIZABETH OSBORNE (a patient of the Middlesex Infirmary), in consequence of exposure to cold, after *accouchement*, had a rheumatic affection of the right knee, which, after the acute symptoms had subsided, gave rise to considerable swelling, pain, and stiffness of the joint. Six months from the commencement of the attack had elapsed when I first saw it; it was then so much contracted, that the toes only could be brought in contact with the ground, and the slightest attempt to extend the limb beyond that position gave excruciating pain. There was increased heat, but no redness, in the integuments surrounding the joint. Twelve leeches were applied, followed by the use of evaporating lotions, till the temperature was reduced, when the use of *moxa* was

commenced. Three, and sometimes four cylinders, were used every second day, for three weeks, when the swelling, pain, and rigidity were greatly reduced. After this period, the *moxas* were applied daily, and friction was practised throughout the treatment. Strength, action, and natural form were now nearly restored; the whole foot brought in contact with the ground, with a trifling limp, and, regarding the final removal of the disease, no doubt is now entertained, by the further continuance of the use of *moxa*. It is six weeks since this patient entered upon the use of this remedy.

The following short case will show the power of *moxa* in recent affections.

CASE XIII.

A GENTLEMAN, who had been much exposed to wet and cold three successive

days, was suddenly attacked with *lumbago* and *diarrhea-biliosa*, accompanied with febrile symptoms; the latter were conquered by appropriate medicines, but the lumbago was so severe that he was confined to bed, being unable to stand or move about. In this state two days were passed without relief from the means commonly practised in such cases; at length *moxa* was decided upon, and three cylinders were accordingly burned over the affected part; when, to the great delight and astonishment of the patient, all pain was effectually removed; nor had he any return of his complaint afterwards.

THE cases enumerated here, having chiefly undergone almost every possible or consistent variety of treatment, are deemed the most appropriate selection, by which to advance a fair comparative repre-

sentation of the virtues of *moxa*. Whilst their number is considered sufficient to induce men of science and liberality to put to the test of experience a practice, upon which time and trial must decide; it is experience alone, which should ever stamp the character of remedies in the healing art. Idle eulogium is ever to be condemned, from the foundation which it lays to the disappointment of the anxious practitioner, and of accumulating evils upon the suffering patient. Exaggeration in the powers of a medical or therapeutical agent, which may tend to the exposure or forfeiture of human life, is a crime, I trust, too base to be wilfully practised: — misapplied enthusiasm, as to the powers of a recently discovered remedy, is, perhaps, pardonable; it is, however, in principle, an evil of no trifling magnitude.

Although it is true, that in the present æra of medical improvement, a practice founded in error cannot long escape public detection, and merited reprobation; yet, sad to say, such an evil, once fully committed, seldom admits of being fully corrected!

ACTION OF MOXA.

THE action of *moxa*, according to the usual mode of applying it in France, has been accounted for by Barons Percy and Larry in their respective writings on the subject. It is imperative with me, however, to state my ideas on the operation of this remedy, since the mode adopted by me differs essentially from those hitherto practised. Baron Larry, that illustrious and scientific surgeon, who, having employed *moxa* for upwards of thirty years, had, perhaps, more extensive opportunities than any other man on record, observes —

“ Les propriétés du *moxa* sont différentes des celles du cautère métallique (fer

rouge) dont les effets paraissent se borner au point touche par le feu. Cette partie est desorganisée a des degrés plus ou moins etendu, selon le volume, l'épaisseur du cautère et la force de son application.

“ Elle est accompagnée d'une douleur vive, brusque, que le malade supporte avec peine; et quelquefois elle est suivie de destruction des nerfs sous-cutanes et d'une suppuration extrêmement abondante, tandis que le *moxa* qu'on fait burler lentement est moins effrayant et que les douleurs sont graduées. Ce moyen d'ailleurs nous a paru communiquer dans les parties, avec une masse relatif de calorique, un principe volatil, tres-actif, que fournissent les substances cotonneuses, lorsqu'elles sont en combustion. L'excitation et l'irritation qui resultent de la combinaison de ces deux produits developpés par l'insufflation, se propagent de proche en proche

jusqu'aux parties les plus profond, de manière à établir l'action des nerfs affaiblis ou paralysés, à arrêter le marche de la cause morbide établie dans telle ou telle partie. Lorsqu'on ne veut obtenir du *moxa* que des effets superficiels, on peut le laisser brûler sans se servir du chalumeau (c'est la méthode de notre honorable collègue le *Baron Percy*).

“ Je tâcherai d'expliquer les effets excitans du *moxa* en parlant des causes des maladies pour lesquelles il nous paraît indiqué que le premier degré de chaleur cause au malade plutôt une sensation agréable que de la douleur, laquelle se propage, se développe graduellement, et va ensuite en augmentant d'une manière progressive ; les dernières douleurs sont sans doute très vive ; cependant le sujet le supporte d'autant plus courageusement qu'il y est préparé, et qu'il soit par expérience, après une seule application,

qu'elles sont dissipées a l'instant meme, par l'application immediate de l'ammoniaque*."

It will appear by this extract, that the favourable results anticipated from the application of *moxa* by Baron Larry, are supposed to depend upon counter irritation, and perhaps the discharge, excited by the manner in which he, and indeed all the surgeons whose practice I have had an opportunity of witnessing in Paris, are accustomed to apply this remedy. These are the natural conclusions when the *moxa* is so conducted as to cause discontinuity in the neighbourhood of an affected part. We have it, however, upon incontestible authority, in addition to mine, that the application of this remedy has been successful in removing painful affections of *nerves*, where no surrounding or secondary irritation could be detected; and where, conse-

* Recueil, &c., p. vii.

quently, discharge, or counter irritation, could have no particular influence. In my own practice, *the application is so mild as not to cause the slightest abrasion of the cuticle*, and yet it effects cures after a failure of all the known remedies in such cases ; hence it is clear, that counter irritation or discharge is by no means a necessary attendant upon its general employment. It appears to me, that there are cases in which *moxa* may be more serviceable by inducing secondary inflammation than if the application had been mild ; but I believe, that in nineteen cases out of twenty, in which the propriety of that remedy is fully indicated, the super-vention of local inflammation would be highly unfavourable to the success of the operation. In truth, when such is the result, it is necessary to discontinue the practice for the time being, and consequently there is an end to the fulfilment of

Baron Larry's idea ; that is to say, that a mass of caloric, and a very active volatile principle, which the cottonous substance is supposed to give out, is communicated to the affected part during combustion. When the measure is carried to a still more violent degree, forming a slough, for instance, the powers of the remedy are quite cut off ; an obstructing medium being now formed between the caloric and the seat of the disease. Much appears to depend upon the nature and situation of the part intended to be acted upon. If *moxa* be applied to the chest in cases of consumption, for example, in which Baron Larry has had the most extraordinary success, counter irritation would no doubt be serviceable ; but such *disease* is widely different in its nature from a local disorder ; the lungs may be operated upon in a secondary manner, as from the local excitement, and increased action of the vessels

on the surface, in consequence, a less active circulation takes place in the diseased organs. It is in these, and in all *visceral* affections of a chronic nature, that the employment of *moxa*, to the extent of a caustic, appears consistent; where, indeed, from the great distance of the part affected by disease, the milder mode of conducting the remedy could not be effectual. And on reference to the modifications, which I have deemed right to adopt in the use of *moxa*, it may be stated, that the circumstance of occasionally witnessing failures, by the common mode of applying it in France, induced me to believe, that the means had been carried to excess; and that if it had been so managed as to stimulate or excite the absorbents, without increasing the action of the arteries, the practice would have been more successful.

In the cases which have occurred to me I have not considered it necessary

to go beyond this rule ; and experience has now convinced me, that it applies generally. The very rapid manner in which chronic swellings have been observed to subside, after two or three applications of *moxa*, and scarcely causing discoloration of the part acted upon, decidedly proves that increased absorption is the sole cause of such change. It appears, under these circumstances, that the heat is just sufficient to dissolve recently organized parts from deposition of coagulable lymph, or morbid thickening of cellular substance without affecting the circulation : that the absorbents, from the texture of their coats being so much more delicate, and being consequently more sensitive than those of the arteries, are stimulated with greater facility, and will take on a new action from the operation of a cause which would have no influence over the latter.

The number of *moxa* cylinders em-

ployed, and the duration of their application, should be regulated by the magnitude of the joint, or other part affected ; and also to the particular degree of susceptibility present, and whether the complaint was of long or short standing.

Baron Larry has objected to the application of moxa to certain parts or structures of the body, and perhaps his objections hold good when the material is applied to excess ; but according to the mode which I have been in the habit of practising, restriction appears quite unnecessary ; I have applied it over tendons and glands (parts to which the Baron has entirely forbidden its use), and yet not the slightest evil consequence has been observed to arise from such application ; but, on the contrary, with anticipated benefit.

Instruments have been invented for the purpose of applying *moxa*, of which the one

recommended by the Baron appears entitled to the preference ; but besides having a formidable appearance, the instruments alluded to are otherwise objectionable ; for as the heat from the burning cylinder will vary in intensity, and which is only to be judged of by the feelings of the patient, so is it necessary to increase or lessen the distance of the material employed, from the part upon which it is meant to act : for these reasons I have preferred using the surgeons' common dressing forceps ; they being, in my opinion, by far the most appropriate.

In the Parisian hospitals it is customary to employ a piece of tightly folded calico, which being set fire to, and held upon the part, by means of a pair of nippers, like those of a blacksmith, is kept lighted by a second person blowing from a pair of bellows : this, it must be admitted, is rather an inelegant surgical

operation, and requires considerable confidence or resolution on the part of the individual who submits to it.

In Baron Larry's work interesting cases are given of a great variety of diseases cured by *moxa* ; the most important of which are *chronic affections of the head, affections of the chest, chronic and organic diseases of the abdominal viscera, of sacro coxalgia, femora coxalgia, paralysis, and nervous affections of the heart.*

Previously to the application of *moxa*, the state of the part is to be attended to ; and if there be inflammation, that is first to be removed by such means as, from the peculiar circumstances of the case, the surgeon may deem advisable. It is sometimes convenient to place a piece of sticking plaister, with an opening in the centre, over the portion about to be operated upon, for the purpose of defending the surrounding parts from sparks, which

occasionally escape from the composition ; the cylinder is then to be taken within the forceps, lighted at both ends, and applied within about an inch and a half of the part ; this distance being increased or diminished in proportion to the patient's feelings : it should be so applied as to cause a slight degree of pain, and the *moxa* is to be prevented from losing the necessary heat, by urging it in a gentle manner with the breath, or by means of a blow-pipe. The patient will occasionally experience a sensation, as if the heat were actually passing through the part to which it is applied ; sometimes itching or slight smarting pain will follow, which may be momentarily removed by the use of a little camphorated liniment.

As regards the success of the remedy, much will depend upon the point selected for its application, and the judgment of

the practitioner in deciding whether the case be a fit one for its employment or not ; but as relates to the mere mechanical part of applying this powerfully revulsive agent, no great degree of skill is requisite.

OBSERVATIONS

ON

REMEDIES USUALLY EMPLOYED IN THE TREATMENT
OF DISEASED JOINTS, CONSIDERING THEM IN THE
ORDER IN WHICH THEY ARE MOST USED.

CUPPING AND LEECHING.

IN cases of inflammation, lessening the total quantum of blood in circulation is supposed by some to be all that is necessary ; or rather, that one mode of letting blood is equally efficient as the other. And there are a few who think, that general blood-letting, in cases of topical inflammation, is even better than local abstraction of blood, on account of the depletion being more sudden ; but the best

practitioners give the preference to topical bleedings, where there is topical inflammation; and there being but little doubt as to the great superiority of the latter over the former, under these circumstances, I shall proceed to consider the value of cupping and leeching relatively.

It may first be observed, that when local inflammation takes place, whatever might have been the original cause, the proximate one may confidently be said to be mechanical: the dilated and distended arteries press upon the veins and absorbents, or upon the surrounding parts, which has the same effect, and thus obstruct the free return of blood; in such case local means are to be practised—general blood-letting would, at best, but prevent an increase of the evil—it could not remove it, until, by the abstraction of blood topically, the veins were

permitted to act, by which the circulating medium might again have free access to its original source. Local inflammation may materially vary in its nature; it may be *acute*, *sub-acute*, or *chronic*; and this again may be deeply seated, or superficial. These two latter states demand consideration as to the superiority of cupping or leeching, one over the other. When local inflammation is also superficial, leeches are decidedly preferable to cupping: and simply, because none of that constitutional disturbance is to be expected from the leech bites, which would be likely to follow the shock of the scarificator, and the pressure of the cupping glasses upon an *inflamed cuticle*. When, on the other hand, inflammation is deeply seated, and that there is no redness or discoloration of the surface, cupping maintains the superiority; as by this, the blood is taken from more deeply

seated vessels, which are likely to be those upon whose deranged action the disease immediately depends : perhaps, too, the effort which nature makes to fill unoccupied space in the exhausted glass, has a powerful effect in distending the superficial vessels, and relieving those more profoundly seated. It appears to be upon this last principle solely that dry cupping acts.

BLISTERING.

ON a review of the foregoing cases it will appear, that the above remedy, when practised, was invariably followed by mischievous consequences ; and general experience has fully convinced me, that no very favourable result should be anticipated from the application of a blister to *a joint which is but thinly covered* : indeed,

when applied over a moveable part, or a part intended to move, in a great majority of cases, the reverse of the object in view (counter irritation) will be the result of the practice. When the effect of this remedy turns out otherwise than what is stated in allusion to *joints*, the circumstance depends on want of power in the blistering material, or the cavity of the joint being at a great distance from the intervention of muscular parts, as is the case with the hip joint: but let it be supposed, for example, that chronic inflammation is going on in the knee joint, the question is, whether a blister immediately over the seat of the affection, or in a depending position somewhat underneath, would be most serviceable? On the very principle for which the remedy was employed, would it not be certainly more advisable at the latter point, as, independently of greater connection between

the vessels of the surface and those in juxta-position, under circumstances of chronic, or sub-acute inflammation, on applying a blister, the distended state of the local vessels, and the pressure of serum, which is a consequence, would materially tend to increase the deep-seated irregularity, both in the exhalents and absorbent vessels? Not so, undoubtedly, when a blister is applied underneath the knee, or the diseased part, because here the connection of the vessels is not so great; besides which, the accumulation of serum, in consequence of the counter irritation, is so far distant from the seat of the original affection, that it must divert rather than augment the disease.

Knowing, as we do, that a blister, in addition to its extraordinary effects upon the cutaneous vessels, is sometimes productive of very peculiar constitutional symptoms, is it not consistent to believe,

that this irritant does not exhaust its entire influence at the point of contact—that is to say, at the extremities of the arteries ; but rather, that it stimulates to a proportionate extent the deeper branches in the neighbourhood, which, if it happen to be the *cavity of a joint*, becomes filled with coagulable lymph. The blistering process, also, is too frequently kept up for an indefinite time ; during which, quiet is strictly enjoined ; at all events, the part is kept in a tranquil state until the healing of the abraded surface is accomplished ; when, if pain had previously existed, it, perhaps, will have been removed ; but if the joint be *thinly covered*, motion is too often lessened, or altogether obstructed. During this period of inactivity the deposited lymph accommodates itself to the internal surface of the capsular ligament, and the articulating extremities of the bones forming the joint ; whilst there be-

ing no friction applied to the *bursæ mucosæ*, they, on the other hand, cease to secrete their wonted lubricating fluid ; and this I believe to be the manner in which blisters do mischief when applied indiscriminately to the immediate vicinity of joints. When perpetual blisters are employed, the muscles in the neighbourhood, from want of action, so completely lose their power, that when an attempt is made to use them, these muscles are found to be no longer within the government of the mind, and the attempt is painful or nugatory.

Many experienced practitioners in medicine will select the nape of the neck in preference to the head for the application of a blister, when the latter organ is the seat of disease ; and I am quite persuaded that I have, more than once, seen delirium induced from the application of a powerful blister to the head of a patient labouring under a febrile affection. Here di-

rect, instead of counter irritation, was the result ; a practical fact, which, I presume, will be admitted as additionally illustrative of what has been advanced above in regard to the general effect of blisters.

SETONS AND ISSUES.

SETONS and issues differ so little in their mode of action, that a consideration of them under separate heads might appear superfluous. As counter irritants, however, they differ very materially from blisters ; and a knowledge of their comparative value, with respect to this latter remedy, is, therefore, of some importance in therapeutics generally.

When there is deeply seated sub-acute inflammation, a seton or issue is to be preferred to a blister ; first, because its action is of a less local nature : and se

condly, because the discharge produced by it is of much more dense consistence. The irritation from either is considerable ; but the extent of surface, exposed by blistering, being so much greater than that occupied by these other means, in addition to the necessity of the patient being confined under their application, constitutes a serious objection to the blistering system, if even a permanent drain be deemed proper.

By a seton or issue, deeper vessels may be affected, which, after a time, becoming much relaxed by the efforts of nature to supply the waste caused by the discharge, the disease, if deeply seated, is, in this manner, more systematically treated than if an application were used which did not form an outlet for the matter it occasioned. What is of importance, also, other vessels than those in the immediate vicinity are not evidently excited by this mode of per-

petual abstraction. It should be kept in recollection, that the favourable operation of a seton or issue depends upon the discharge which it excites, and a change in the current of blood from the affected part to that whence the discharge proceeds. Much caution in the use of these remedies is necessary, as when continued for a short time only they seldom do good ; and if, on the contrary, they be employed for a great length of time, their effects are conspicuous by wasting of the muscles, and consequent diminution of power in the limb so acted upon.

Consequences, sometimes serious indeed, follow precipitately healing a seton or issue ; as the blood, not being accommodated at the usual outlet, must find its way to some other part : this will, of course, take place where there is most susceptibility and predisposition to disease ; the head, the lungs, the liver, or, perhaps,

some less important organ in the vicinity of the now obstructed discharge, will suffer from sudden influx of blood. When such is the case, the topical application should be again made; and great caution ought to be observed in permitting the site of the irritant to be prematurely closed.

Mr. Brodie*, in speaking of caustic issues, says, "I have employed caustic issues, and seen them employed in a great number and variety of instances, and have found them to be usually productive of singular benefit where the cartilages were in a state of ulceration, and to be of much more benefit in those than in the other morbid affections to which the joints are liable."

* See Brodie's invaluable work on Diseases of the Joints.

FRICTION.

ALL substances being susceptible of electricity, it is by a modification of this extraordinary power that the operation of friction induces changes in a diseased part. The remedy is now in such common use, that its effects are generally well known ; but the manner in which it acts, so as to induce those effects, has certainly not attracted equal attention : a circumstance which accounts for the numerous failures consequent upon its indiscriminate employment by ignorant persons.

If long continued friction be made upon the skin, it becomes red, inflamed, and blistered : effects which depend upon the excitation of latent heat ; as when, by the same means, heat or flame is produced in inorganic matter : proving this to bear an immediate affinity to *moxa*, or electricity, but limited in degree. From this species of

electricity the part becomes filled with *sensible heat*; the local vessels and absorbents are excited, by which indurated cellular substance and slightly thickened ligaments may be relaxed, and the disease, supposing it to be in a joint, and not deeply seated, may be greatly lessened, or altogether removed. A slight rigidity of muscular fibre, such as the sequelæ of rheumatism, or cold, may be benefited by friction; but if there be long continued contraction, and, consequently, shortening of muscle, or much ligamentous thickening, this remedy will have but little effect. When there is any degree of pain, or a sensation of morbid heat in the part, friction appears altogether inadmissible.

A late author*, observing upon this subject, remarks — “ We have only to witness the operations of a professed rubber,

* Shaw on Distortions, &c. &c. p. 153.

to be convinced, that if the practice were superintended by one acquainted with anatomy and pathology, much benefit would result from it, while there would be no risk of the patient's life being endangered by its indiscriminate application."

SHAMPOOING.

THE mode of performing this operation differs materially from that of friction, although they both act upon the same principle. Shampooing consists in a succession of movements upon a joint, and is calculated to effect purposes there, which would be beyond the powers of friction. By shampooing heat is excited in the manner already described; in addition to which, the deeper parts of the joint are affected by the articulating ends of the bones act-

ing upon each other ; the *bursæ mucosæ* are pressed upon, and excited to the secretion of *synovia* : the thickened ligaments are actually elongated, and the fibres of the contracted muscles are necessarily relaxed by the force thus applied to them.

MANIPULATION.

MANIPULATION differs from the above, and appears to possess peculiar but limited advantages : it is performed by grasping the muscles and fleshy parts between the hands, and making a certain degree of pressure ; a process which, in addition to friction, appears well calculated to effect favourable changes in cases of wasted limbs, where, from deficiency of nervous influence, and natural action in the nutrient vessels, that portion of animal heat,

so absolutely necessary to the healthful functions of the parts, is not generated.

As PERCUSSION, KNEADING, and THUMBING, do not appear to possess any particular advantages one over the other, it may be sufficient to describe the mode of performing each ; considering them as so many modifications of *friction*, *shampooing*, or *manipulation*.

First, then, percussion signifies repeatedly striking with the ends of the fingers, the hand employed being contracted into the form of a cone*; *kneading* consists in alternate pressure by the knuckles of both hands ; whilst *thumbing* has the appearance of going more minutely to work, by alternately pressing with both thumbs.

* Percussion is an important auxiliary in investigating the diseases of organs situated within the cavity of the thorax.

ELECTRICITY AND GALVANISM.

To comment fairly upon the advantages of any remedy, it is first important to consider the manner in which that remedy operates ; and, perhaps, if such consideration be entered into here, it will be evident that there are no means, which, from their peculiar nature, demand more caution in their employment than electricity and galvanism. It is now generally admitted, that these measures are of less consequence in the treatment of chronic disease than was formerly supposed ; yet it is not to be inferred from this, that certain cases may not be materially benefited by a judicious application of them ; but rather that it is in the knowing how to limit the precise quantity of electric matter to the particular nature or urgency of the case that the difficulty rests.

In the administration of every class of medicine, the quantity given is carefully considered ; and it is in proportion to the quantity given that we are accustomed, from experience, to anticipate results.

Lightning, or a powerful electrical shock, may instantaneously destroy life : experiment and experience teach us, that it is through the medium of the *nerves* that this subtle fluid produces that and all other immediate effects upon the animal economy : and that the reaction, which takes place in the vascular system from electricity, under ordinary circumstances, is a secondary consequence of nervous influence only.

From this cursory view of the physiological action of electricity, it will appear evident, that this remedy, when practised with the caution which it requires, is more particularly applicable in paralysis, and consequent wasting of the muscles from

deficiency of nervous influence, and a diminished action in the vessels which should nourish the affected part, than in any other species of chronic disease. And that even in the above cases, from the critical nature of an electrical machine, depending upon peculiarities of the weather, and a variety of other causes, the practice, I fear, will remain uncertain with the scientific electrician, and hazardous when conducted by those less experienced.

In conclusion, it will be manifest, I think, that *moxa*, *friction*, *electricity*, *shampooing*, *manipulation*, &c. &c., all operate upon the parts to which they are employed by the heat which they generate ; and that each will exhibit its beneficial effects precisely in proportion to the judgment evinced in deciding upon the applicability of the remedy to the nature, seat, and stage of the disease : that, on some

occasions, one of these measures will suffice, where a combination of them would be hurtful; on others, a judicious selection of more than one measure will be admissible; and in certain cases, many or most of them may be employed, at the same time, with propriety and advantage.

OBSERVATIONS

ON

AFFECTIONS OF THE SPINE; AND THE MUSCLES
WHICH ARE MORE PARTICULARLY CONCERNED
IN ITS MOTIONS.

IN the observations which it is my intention to make upon diseases of the spine, I forbear entering into a tedious detail of diagnostic symptoms, these being now generally known; or a refutation of doctrines already condemned and exploded; such being inconsistent with the aim, to give original information, which, in some degree, is the object of the present volume: but rather confine myself to such parts of the subject as I am induced to

believe call for further direct notice ; recommending to the reader, anxious to become acquainted with the modern doctrines, a perusal of the more recent publications, written expressly on spinal disorders ; amongst the most important of which are those by Wilson, Shaw, Dodds, Ward, Jarrold, and Bampffield.

It is within the last few years, particularly, that medical men, possessed of anatomical and physiological knowledge, have condescended to study the above affections with any degree of zeal ; and, strange to say, it is within the last few years, more particularly, that these affections have grown into a serious and threatening evil to the rising generation.

Is it that, independently of an unfortunate bias for imitation, which has ever been a governing principle of mankind, that we are really degenerating ? Or is it because knowing more, we actually fear

less, and more confidently practise imprudence? Or, finally, is it that indulgent parents, forgetful of the health and future happiness of their incautious children, with unremitting efforts to make them surpass those of their neighbours, impose upon them duties which nature intended not? Be the original intention what it may, it is quite certain that the impositions of the parents contribute much to the vast increase of spinal disorders amongst young ladies. The present fashionable *mania* for classical, historical, and mathematical knowledge, together with the violences practised in restraining natural growth, by means of stays, and badly constructed and misapplied instruments, give rise to more cases of deformity than accident and hereditary disease united.

The period of intense application which the above studies demand, is necessarily of such duration, that serious inroads

upon the health and constitutions of delicate young females must follow: from the position attendant upon studies of this kind, the superior part of the trunk being inclined forward, and pressing upon the inferior part, curvature of the spinal column is almost a necessary result. The pliable bones, not having yet completed their ossific process, readily give way to the superincumbent weight, whilst, by the delicate ligaments following this motion, the intervertebral cartilages are compressed, and must in time accommodate selves to this unnatural attitude.

Labour at the piano *, demanding a still more unfavourable position than even the above-mentioned studies, is still more injurious to the health of young persons; both arms being thrown forward, and in

* The attitude which writing and practice at the harp requires, is more likely to be productive of lateral inclination than of any other curvature in the spine.

action at the same moment, with the head greatly inclined for the purpose of reading the notes. In the one case the ribs, and consequently the lungs, are compressed laterally : whilst in the other, the spine is bent forward, and the lungs are again exposed to pressure superiorly : thus the dorsal muscles, in some degree, lose their contractile power from overaction, whilst those of the chest cease to be useful, from being deprived of all action, giving origin at once, perhaps, to deformity and pulmonic disease.

These are the evil results of the present overweening desire to press knowledge upon the female mind : the constitutions or habits of delicate females qualify them not for such active discipline. But let it not be inferred from this, that those elegant accomplishments, which adorn and grace the youthful imagination, are to be entirely withheld : no, education properly

conducted, is a blessing to society: but let it be recollected, that there is such a quality as genius, and that this quality particularly applies to music. One young lady, for example, with the same degree of attention, may acquire more in half an hour, than another, not equally endowed with the essential faculty of musical ear, will do in four hours. In this latter instance, would it not be cruelty to urge what nature opposes? Perhaps the same individual will manifest strong literary talent, and arrive with facility to a degree of perfection in a knowledge of history and languages, which, pressed upon the other, would be harsh, and extremely impolitic, from the time which would be necessarily expended in the acquisition.

Almost every one, without prejudice to the constitution, is equal to the task of becoming well acquainted with her mother tongue, and of obtaining a certain degree

of knowledge in French, Italian, and music ; but even to these acquirements the mind should be applied with caution ; regulating the duration of its active state to the mental powers generally — the constitutional peculiarities — and last, not least, to the direct genius or taste of the young person, upon whose early habits so much is at stake. Mothers and governesses cannot think too seriously of these matters ; as they form considerations of vast importance to the future happiness of those to whom they are both so peculiarly pledged, whether by kindred tie or a more common duty.

Over anxiety on the part of a mother, to see her daughter superior in regard to acquirements, is sometimes attended with lamentable consequences ; as, from incessant application, amounting to drudgery, it is not unusual for such person to become a cripple all her life ; and instead

of an ornament, a nuisance to the society in which she moves !

It is important to state, that the foregoing observations apply to persons of delicate constitution only, in whom no hereditary pre-disposition to scrofula exists; and that a cautious discrimination between diseases which resemble the above malady, and those which are in reality of that nature, is of vital importance to the patient, and may greatly preserve the private interest of a whole family : the name alone being offensive to those actually labouring under scrofula, clearly points out the necessity of correctness or delicacy in the application of this term. In the whole catalogue of human afflictions there is not another disease so convenient in use as is this, with the profession ; for, when spinal or joint disease resists the common mode of treatment, it is not uncommon, nay it is too common, to pronounce the

case one, for which nothing further can be done, as being scrofulous and incurable! Thus the practitioner is at once guilty of subterfuge, to prevent the accusation of want of skill, and of precluding the possibility of cure by further trial.

On the other hand, it behoves him to be wary, lest he in turn be imposed upon; because, from the objections held against the idea of labouring under this complaint, a patient who is, *bona fide*, affected with it, and that hereditarily, will, perhaps, *thank God*, that he, or any of his family, were not pre-disposed to that dreadful affliction the “KING’S EVIL.”

The practice of wearing tight stays, and of long continuance in the same posture, the means most generally productive of distorted spine, as has been remarked upon, may not be followed by bad consequences in every case; but if there be a scrofulous tendency in the indivi-

dual thus exposed, the chances in favour of disease will then be greatly multiplied, and the results, if any, will be of an infinitely more serious nature. When, under circumstances of this double character, curvature does take place, inflammation, ulceration, or caries is next to be apprehended: the symptoms, however, are so well marked, that no surgeon should risk his reputation by an opinion, which was not founded upon previous minute investigation and inquiry; *bearing in recollection, that a curvature of the spine depending simply on delicacy of constitution, and bad habits, may take place unpreceded or unaccompanied by threatening symptoms; whilst inflammation, ulceration, or caries, which are more generally concomitant with scrofula, will be characterised by serious symptoms, but which, as they are described in several surgical works, it would be useless to enumerate here.*

Having, in this brief manner, endeavoured to show the more common and

remote causes of spinal complaints, it will be right to treat a little more closely the precise mode in which these causes operate in their production.

Enough, perhaps, has been said by other writers on the present subject, upon the importance of muscular motion to the healthy action of the system ; more particularly of that class of muscles, upon which the perpendicularity of the frame chiefly hinges* ; but the connecting chain between cause and effect has not yet been sufficiently simplified.

I have stated that stays, and badly constructed, or misapplied instruments, which

* The effects of habit and exercise upon the muscles are particularly conspicuous in the legs of the footman and opera dancer ; the neck and shoulders of the porter ; the arms of the pugilist and mechanic ; and in the limbs of the swifter tribes of animals : whilst the wonderfully combined powers of both the muscles and ligaments, from exercise, are best exemplified in the harlequin and stage-clown.

are intended to improve the figure, have a strong tendency, on the contrary, to cause deformity : this, it is presumed, will be readily admitted, as will also the general opinion that the abdominal muscles are important agents in the process of digestion ; yet every individual, whom those observations concern, may not be acquainted with these circumstances. And even some of those, whose province more particularly it is to investigate the action of the abdominal muscles over the digestive organs, think that little more than the fact of their influence being through the medium of mechanical action is necessary to be understood. But this is far from being the case, else the practice of pressure, which is here so much denounced, would, above all others, conduce to health.

In considering the influence of these muscles, then, let them be viewed as hav-

ing a double office ; one, as they relate to the spine, by virtue of their situation and power, in opposition to the extensors of the back ; and the other, as they more directly apply to the stomach and alimentary canal.

First, then, as regards their influence in increasing the power of these parts, let us observe the origin and insertion of each muscle, and, finally, the course, distribution, and arrangement of its fibres individually : it will thence appear, that from some ascending and descending obliquely, others transversely, and those of the *rectus* alone being directly longitudinal, but whose action is not altogether simple, in consequence of its subdivisions, by means of transverse bands, that the muscles of the abdomen possess a vast variety of power and action. Again, bearing in mind the undoubted necessity of this variety in the distribution of the

muscular fibres, let us just reflect upon the great length of the intestines, and the numerous contortions and circumvolutions which they necessarily assume in consequence. Observe next, that the excrementitious matters have to descend, ascend, and pass transversely, corresponding to the number of turns or figures which this passage makes : thus it will appear, that *simple* mechanical pressure, whilst it would be favourable to one of these actions, descent, would effectually obstruct the two others : and it may be inferred, that this complex arrangement of parts externally is, from a wise provision of nature, a co-adjutant power to the internal parts, and that they both act simultaneously ; the vermicular or peristaltic action of the latter being excited by the egesta in its passage, whilst the former are obedient to the ordinary process of breathing : establishing, by these natural

and combined actions, what, in medical language, is commonly called *consent*.

Taking for granted, then, that these powers, free and unrestrained, are of immediate importance in the process of digestion, and that this process, so maintained, is absolutely necessary to the enjoyment of good health; we can easily be induced to believe, that any thing obstructing the action, or interrupting the functions of the abdominal muscles, whether from mal-position, or improperly applied mechanical pressure, will induce indigestion and ill health*; and that when this takes place, the patient becomes affected with loss of appetite, lowness of spirits, and aversion to action: in short, the flesh wastes for want of nourishment—the muscles become relaxed

* The pale countenance of the weaver, the shoemaker, or the taylor, whose occupation admits not of free-action to the abdominal muscles, is fully indicative of indigestion from that cause.

for want of exercise — and the spine sinks or loses form for want of its usual support.

It may be urged, that I have attached too much importance to the muscles of the abdomen in the production of distortions, and that I have forgotten to take into consideration the action of their antagonists, or those muscles which are more particularly in direct opposition to the *recti abdominis*, namely, the *longissimi dorsi*, and *sacræ lumbales*. Here I would just observe, that although these last named muscles, by their counter-action, prevent the spine dropping forward, and when excited to over-action may do much towards restoring its original shape, yet it is still certain, that very formidable curvatures may take place without any important change being effected in these muscles. If this were not the case, the attitude of tying the shoe, or drawing on the stocking, which puts these muscles infinitely

more on the stretch than the position which I have endeavoured to show is so highly injurious to those of the abdomen, would be decidedly fatal to all future contractile power in the extensors of the back. Indeed, when the balance between antagonist muscles is lost, the circumstance does not so much depend upon unnatural extension, as it does upon unnatural contraction — the elongated muscle will rapidly contract, and accommodate itself to any assumed position, when the powers which extended it are removed or drawn into approximation ; but the reverse of this is not so easily effected with a contracted muscle. This may be further illustrated by at once referring to lateral curvature, where the patient, whether of necessity arising from disease, or from bad habit, inclining much to one side, an inverse action of the *longissimi dorsi* and *sacræ lumbales* is the consequence ; those

on the one side, having their length diminished, whilst that of the others, upon the opposite side, is proportionally increased. Here, remove the cause, leave these two muscles to contend one against the other, and it will be found that the contracted one will still maintain the sovereignty ; but excite the elongated muscle, which, by its powerful contractions will become shortened, its fellow will be equally lengthened, and thus may symmetry and the natural balance of power be again, in a great degree, restored.

It has been stated, in objection to the opinion of *lateral curvature* being caused by the muscles of one side of the spine being stronger than those of the other, that, “ If the distortion depended on an undue action of the muscles of one side of the spine over those of the other, the curve would be always in the form of a single arch, instead of its being of a ser-

pentine shape, as it generally is, between the points from which the muscles arise, and those into which they are inserted * ; ” But this, if right, does not explain the nature of the serpentine form, which I believe to be this : —

A child has disease, for which it is confined to bed, continuing in the same position for a great length of time, during which there is of necessity, from some local irritation, great lateral inclination of the spine ; on this side, the muscles at first are relaxed, but from accommodating their length to the same constant position, they contract, and prevent the patient from standing erect when he gets up ; thus a single arch is formed.

The patient now, endeavouring to regain his perpendicularity, excites the antagonist muscles, which draw part of the spine to the other side, forming another

* SHAW on Distortions of the Spine, p. lxviii.

arch ; and that such should be so is not strange, since the cause in either case is different. Nor is it altogether impossible, that a double curve, or serpentine form, should take place by a greater action of the muscles of the spine of one side than in those of the other, at *different times* ; although I would not be understood to say, by this admission, that one set of antagonist muscles was necessarily stronger than that opposed to it. If a branch of young green wood, or a piece of soft iron wire, be bent into the form of an arch, and that, on reversing its position, the same degree of force be applied, still holding it by the extreme ends till it changes form, it does not follow that the material will become straight ; the chances are, that some new part will give way, and that another curve in the opposite side will take place, the extreme ends being at right angles.

It is fair to state the opinions of another writer on this subject, more particularly as they are at variance with those just given. Mr. BAMPFIELD, in "an Essay on Curvatures and Diseases of the Spine," which abounds with correct and useful observation, expresses himself thus:—
"The benefits and effects of mechanical extension and pressure may be partly illustrated in the following manner: although it will strike every body, the analogy between the condition of the spine and whalebone is not a strict one. Take an elastic substance, for instance a piece of whalebone, of the dimensions and figure of the spinal pyramid in its natural state; bend it into a curved form, retain it in such, or increase the curvature gradually for some months: on removing the retaining power, employ extension by pulling at each end; let pressure be si-

multaneously applied on the middle of the curve, and the bent whalebone will be reduced to a straight line. After a short period, remove the extending and compressing powers, and the curve will be re-established to a certain degree, less than before, by the elasticity of the whalebone: continue these powers for a long period, and it will appear nearly straight on their removal. To a certain extent the same results follow the same means in curvatures of the spine. In the incipient stage of distortion the curve can be reduced by those powers to a straight line, and could be retained there, if the patient could bear their constant use; but this he cannot do: in the advanced and confirmed stages, before an anchylosis has taken place, these powers, exerted in the degree easily bearable by the patient, are unequal to reduce the curve to a straight line at once, but,

gutta cavat lapidem, in the course of time these powers greatly assist in accomplishing it."

As far as the above observations apply to the whalebone in question, they are undoubtedly just ; but, agreeing with their author, that "the analogy between the condition of the spine and the whalebone is not a strict one ;" and freely acknowledging, that that between the soft iron wire and green wood and the spine is also rather distant ; I would observe, that whalebone, from its elastic nature, and the continued unbroken course of its fibres, bears less comparison to the many-jointed spine, than any other pliable substance with which I am acquainted.

If we bend a piece of whalebone till its extreme ends meet, no perceptible alteration will take place in the structure of the parts which compose it ; but if, on the contrary, the spine be bent unnatu-

rally, and remains in that state for some time, some of its joints will be more particularly affected; and, if the moving powers of the spinal column be excited, it will generally happen, that *nature* will partially remedy the defect, and restore perpendicularity by the formation of a slight serpentine figure, rather than by the removal of the original arch. Where there is an inclination only to the formation of an arch, it may be effectually remedied; but when curvature has actually taken place, I think its removal will be found more difficult than that of inducing a change of position in any other part of the spine: if this were not the case, curvatures would admit of easy cure.

ON THE NATURE OF CONTRACTED

OR

CHICKEN CHEST.

IN some persons a habit of stooping, depending on physical cause, frequently hereditary, is to be observed; not this, however, but malformation of the chest, arising from diseased action, is the subject for consideration here.

If inflammation of any of the thoracic viscera (but still more so, if in the pleura pulmonalis) take place, the patient, without consideration, being prompted by his feelings, will incline the head forward upon the chest; the internal parts, in this position, having more play from the increased diameter of their boundaries. And, if the disease continue for any considerable

length of time, a *suite* of symptoms follow, which are sometimes erroneously attributed to adhesions of the *pleura*, or to other organic change in some of the viscera.

It is not intended to convey an idea, hence, that adhesions do not occasionally take place; but it is maintained, that the following is an invariable result of long continuance of the above or similar causes: as, in the attitude alluded to, the *trapezii* and transverse fibres of the *lat-tissimi dorsi* muscles are uninterruptedly put upon the stretch; the *sterno cleido mastoidei*, the *pectorales* major and minor, and the *intercostales* become relaxed to an equal extent. These last, from a long period of inactivity, waste until the appearance of muscle is no longer discernible; the ribs make a nearer approach towards each other, which, with the sternum, cease to be acted upon by the lungs, now only

partially inflated, in consequence of loss of power, and of mobility in the external parts. To assist in this unnatural change, the arms are brought forward, pressing upon the scapular ends of the clavicles, which reacting and pressing upon the sternum, tend to direct it forward, and establish the nature and character of the malformation; whilst the antagonist muscles, from their fibres being elongated and exhausted, by overaction in the same position, are rendered incapable of direct influence over the comparatively inanimate mass opposed to them. All the diseases, studies, or amusements, which contribute to the above position, tend to cause chicken-chest.

ON THE MORE COMMON CAUSES OF
SPINAL AND JOINT DISEASES
IN INFANTS.

IN the early period of infancy the province of the nurse is important, and should be strictly watched over: persons employed in that duty, happily, have but little to do with the after-habits or practices of children devoted to their care; but it is melancholy to observe the fact, that by bad nursing, whether from ignorance, obstinacy, or carelessness, numbers of promising infants have all their happier prospects circumscribed, and are doomed to incurable lameness.

The degree of tightness with which the roller is sometimes passed, is alone a suffi-

cient source of mischief, by obstructing the circulation, or pressing upon some of the soft parts, contiguous to an important nerve; the delicate and but slightly resisting muscles of the abdomen, for example, in juxta-position to the bifurcation of the iliac arteries, or the commencement of the great ischiatic or crural nerves, may be the parts acted upon.

When dressing the child, it is a common practice of the nurse to place it between her extended knees, for the purpose of convenience in passing the roller; and to prevent resistance on the part of the infant, she now presses upon its hips and shoulders, by which, if forcibly, as sometimes it is, the feeble muscles and unossified spine readily give way, and thus is laid, perhaps, the foundation of lasting distress to the child and its parents.

Throwing an infant down in a careless

manner, and in a position from which it cannot move, may so act upon the spine, or so disturb the functions of a joint, as to induce curvature in the one, or serious disease in the other; not taking into account the fatal results which undoubtedly do, occasionally, take place from this censurable conduct.

In infants, in whom hereditary pre-disposition to disease exists, that pre-disposition will be readily excited by any of the causes pointed out above; a whole family may have a scrofulous tendency, and yet the disease may only make its appearance in the person of one of many children; such occurrence depending, generally, upon accident or neglect:—sometimes a more delicate state of the mother, immediately preceding, or after the child's birth, will give rise to this striking difference in the health of her family. When there is a liability to the

disease in question, an early and incautious licence to run about is frequently attended with serious consequences; and a total exclusion from every kind of exercise, on the other hand, is not less culpable. A wise medium here is therefore of consequence, and the timely advice of a judicious surgeon at this critical period may stop the career of a disease, at once threatening to the health of the child, and to the happiness of its anxious parents.

When an infant is put to nurse, whether fashion, or indisposition of the mother be the cause, these evils are likely to be greatly multiplied, consistently with the adage, “out of sight out of mind.” It is, therefore, advisable, that every healthy mother should *suckle* her own child, keeping it as much as possible within her observation for the first year and a half:

if, on the contrary, she be unhealthy, that circumstance should, undoubtedly, plead for an exception to this general rule ; but still, the nurse and infant should be within the control and instructions of the mother.

EXERCISE AND DIET,

AS REGARDS CHILDREN.

IF that degree of exercise, which is consistent with instinct and the dictates of nature in healthy children, were permitted, our numerous rules and restrictions relative to diet, at a more advanced period of life, might with propriety be greatly curtailed. Indeed, if habit and instruction did not greatly interfere with the more natural desires of the youthful mind, the present system of *dietetics* would be found, if not injurious to health, at least incapable of affording any assistance in an attempt to cure. It has been stated, that as every

nation has its peculiarities in cooking, and in the nature of the food cooked, so has experience taught, that the mode of living adopted in every climate is best adapted to its inhabitants ; but this, although a general opinion, is not strictly correct, as may be readily shown by referring to any one climate, in which there are various tribes, each having its particular religious creed, and each, in consequence, having for sustenance a particular kind of diet. Two examples will suffice to expose this error, which cannot, perhaps, be better illustrated than by comparing in India, the abstemious Hindoo with the more indulgent Mussulman, and, in our own climate, the habits of the peer with those of the peasant. By this mode of inquiry it will be seen, that more depends upon a strict observance of early habit than upon any peculiarity of climate.

Those who have taken a different view

of this subject, making their comparison nearer home, observe, that the continental subject, whether his general repast be *ragouts* and *fricassees*, or *rice* and *macaroni*, will enjoy better health by continuing their use than if he were to change for the solid and more substantial dishes generally introduced at our tables ; an observation, which, in an abstract sense, is perfectly correct ; but it only proves, that this circumstance, instead of depending upon climate, is the undoubted result of assimilation of constitution to early habits. Hence it will appear, first, that good health does not depend upon the kind of food used ; and, secondly, that in disease, the medical practitioner will act wisely in directing his attention rather to the quality and quantity of the usual nutriment, than to any material change in its nature.

A few years back, the practice of recommending a vegetable diet, in almost

every description of chronic disease, was so common in this country, that it might then be pronounced *fashionable* ; but this mode of living having been inconsistent with the habits of the people, was found to be unsuccessful, and is now pretty generally condemned ; at least by those of the profession, who, instead of *fashion*, will take reason and result for their guide.

If a reciprocal admission, of the importance of attending to early habit, between our brethren of the continent and practitioners of this country were made, less cause for argument, as to the superiority of medical practice, would exist ; and the advantages of the means of cure employed with the subjects of either nation would be fairly admitted. My opportunities for observation in the continental hospitals, compared with what, in different parts of the world, I have seen practised on British subjects, have convinced me, that the

simple diluting principle, followed by our professional neighbours on the continent, in cases of violent inflammation, and attended with a tolerable degree of success, would be almost invariably fatal in similar cases in patients of this country; whilst the system of copious depletion, so eminently serviceable here, would be altogether inadmissible in those countries wherein an animal-food diet is in less general use.

Thus it will appear, that all rules relative to diet should consist in a judicious and well qualified attention to habit, and an assurance that no specific ordinance, with respect to food, will universally apply.

GENERAL OBSERVATIONS

ON THE

PREVENTION AND TREATMENT OF SPINAL DISORDERS.

As the observations made upon the nature and cause of diseased spine were meant to be of a general nature only, so any systematic arrangement of the remarks which I propose to offer here, upon the prevention and treatment of this grievous malady, would be misplaced : first observing, that from the vast variety of causes, which may directly or indirectly induce changes in the form of the spinal column, no fixed treatment can be pointed out as the most effectual, and that in which implicitly to confide. If medical men could be induced to

believe, as, with due deference to those who have observed before me, I do, that the muscles destined to effect the various positions which, in a healthy state, the spine admits of, may be either primarily or secondarily affected; that curvature of that pyramid, which supports us in an attitude of dignity peculiar to *man*, may take place preceded or unpreceded by scrofulous diathesis, or disease of the spinal ligaments or intervertebral cartilages: and that taking it for granted, from reading and experience, that this assumption is right, and that authors have differed in opinion, either from a practical pertinacity of rigidly advocating individual experience, or from the judgment having been warped by early impressions, I would humbly submit, that the precise nature of each case should be carefully investigated, and that upon the peculiarity of the affection alone is a practice to be founded, which will most tend to

the restoration of that elevated characteristic of mankind, as distinguished from other animals—the erect posture.

In former days, men started into practice with certain doctrines, which they thought it was their duty to defend till the last moment, with all the possible ingenuity, interest, and determination of a politician, who is ever to be observed taking one decided and unyielding position in the agitation of public questions. In the present day, on the contrary, no individual thinks he ought to be bound down by the shackles of former medical doctrines ; so improvement is now comparatively rapid ; but in the midst of this, as may be expected, errors arise—new causes are assigned to disease, and a specific treatment is often laid down, which will not bear the test of general experience. In the political world, a “ *go-between*,” as certain characters are sometimes styled, is held in contempt :

but such should not be the case as the term applies to the medical practitioner ; with him, qualification should be the order and progress of his every step.

What I advance now, in respect to the prevention and treatment of certain forms of spinal disease, may be brief ; the views which I take of the subject will be easily understood : I shall commence with that of children.

When, from any of the causes enumerated above, in relation to infants, whether accident, bad management, or the development of hereditary predisposition, a child is threatened with spinal disorder ; when, in fact, there is an inequality in the action of the muscles which govern the motions of the spine, the cause must be studiously sought after ; and, if depending upon such as debility from worms, indigestion, any particular visceral disease, or scrofula, suitable measures for the treatment of that particular com-

plaint are first to be employed for their removal : the consequences are next to be attended to, and may, perhaps, under these particular circumstances, be best remedied by a modification of the practice first proposed by Mr. Grant, and afterwards advised by the late Mr. Wilson, of carrying a weight upon the head. I say a modification of this practice, and which I would confine to the child's being taught to balance in that manner some light substance whilst walking about : there being more difficulty in balancing a light than a heavy substance ; a fact well known in experimental philosophy, although at variance with ordinary opinion : besides which, the efforts made to keep the light substance steady are just sufficient to give equal action to the muscles, without overpowering, by excess of weight, those in which action is already defective.

If the disease have gone beyond this, then the treatment must be regulated by

its particular nature : for instance, should inflammation of the ligaments, or intervertebral cartilages, be suspected, which is to be judged of by the symptoms, the child should never be allowed to walk when there is pain : the superincumbent weight should frequently, in the course of the day, be taken off by placing it upon its back or abdomen, just as circumstances connected with the curvature (if any have yet formed) may appear to demand. If such symptoms exist, and be acute, the occasional application of three or four leeches to the suspected seat of inflammation will be highly serviceable. Early attention to these complaints, and the above preventives, will generally supersede the necessity of a permanent drain.

Spinal disorders, in children particularly, require much looking after ; as they, unfortunately, on account of their tender years, are not to be looked to for

any description or knowledge of their complaints: ordinarily, indeed, a spinal affection is so slow and insidious, that some other person notices it before the little sufferer is aware of any thing being wrong. It is after accidental illness, requiring confinement to bed, that these complaints are most conspicuous; the muscles then become relaxed and feeble, and can no longer resist the evil tendency, which previously, though imperceptibly, the muscles opposed to those on the affected side had resisted.

When children are naturally healthy, exercise is the best means of keeping them so; but if, on the contrary, children be delicate from birth, attention must be paid to air and exercise, clothing, and the state of the digestive organs.

Suppose a young lady at school be the subject of curvature, and that this affection assume a lateral inclination; as, from im-

proper school training, I believe it more frequently does, then the disease will be in the muscles only ; unless to the above cause scrofula or accident be added, when, perhaps, inflammation or ulceration in the ligaments and cartilages, or both, may exist along with the muscular affection. But, supposing the complaint in the muscles to be original, and independent of other disease, except the lateral curvature, to which they have contributed, then the treatment will be simple : the cause, whether by long continued exercise at the harp, by writing, or any other practice which engages one set of dorsal muscles more particularly than another, is to be immediately suspended ; and the reverse of this position, or as far in the opposite direction as the muscles will permit, is to be frequently assumed, in addition to friction upon the affected side of the spine, and stretching the muscles, which may be conveniently done by ap-

pending a weight to the foot, raising another at the same time with the hand ; the second weight being attached to a cord, passed through a pulley over the head : and the patient standing upon a footstool, or some such elevation, so that the foot to which the weight is affixed may be swung about to give the muscles action.

At first, muscles thus excited will contract, and resist the force applied to them ; but in a short time they will become fatigued, and their fibres will become relaxed and elongated. When much fatigue is in this manner induced, the patient should be allowed to recline, to prevent the spine from immediately resuming the curved form, as it undoubtedly would do, if allowed to remain long under the superincumbent weight, whilst the muscles were in a state of exhaustion. During the above rest in the particular form of the complaint now under consideration, it will be but of little consequence whether the re-

clining plane be inclined, as a certain elevation given to it is termed, or horizontally placed.

When *incurvation*, or the opposite of this, which Mr. Bampffield terms *excurvation*, takes place, the disease has in general been long in progress, and admits not of easy cure ; here, the abdominal and dorsal muscles should be called into action by raising weights, as described above, employing both hands at the same time, and increasing the weights as the muscular strength increases. Certain portions of the day should be allotted to the recumbent posture ; the facial position being the one to be practised in *excurvation*, and the dorsal position, on the contrary, being consistent in *incurvation*.

In this species of the complaint the inclined plane will rather assist to take the pressure of the intervertebral substance by the weight of the limbs, and the tendency

of the trunk to gravitate, whilst the head is secured in the apparatus appropriated to its use. Friction should be superadded; and, if the case be tedious, I think we know enough of *moxa* to believe that it will do more in relaxing muscle, increasing absorption, and lessening rigidity, than all the other remedies with which we are at present acquainted. When there is chronic inflammation present, in the connecting ligaments of the spine, the intervertebral cartilages, or *theca vertebrarum*, this remedy appears best calculated to fulfil the various indications so essential in these different complaints, as it may be conducted to act as a *gentle stimulant*, a *rubefacient*, a *blister*, or a *caustic*, according to the nature of the case. Baron Larry has given strong testimony of the extraordinary effects of *moxa* in arresting caries and absorption of bone.

Chicken-chest, I believe, is not likely to

occur after the years of childhood, unless in persons in whom there was early predisposition, or from accident. When, however, such malformation does appear to be influenced by the exciting causes which I have assigned as the most common in its production, they are to be immediately counteracted, the dorsal position on the inclined plane frequently repeated in the course of the day, and friction and percussion over the chest are to be practised. The occasional use of dumb-bells will greatly contribute to increase the strength and action of the pectoral muscles; whilst the *sterno-cleido-mastoidei* may be exercised by causing a weight to be raised by the head, as recommended by Mr. Ward in certain muscular affections.

I do not conceive it necessary here to make any comment upon the numerous instruments and machines, used in the above complaints; their powers having

been so highly eulogized by others ; but just observe, in conclusion, that, as the causes of spinal disorders, and the peculiarities of the disease arising therefrom may widely differ, so must the treatment admit of extensive variation; and that it is the man in attendance, possessed of anatomical and physiological knowledge, with a certain portion of reflection and experience, who can most correctly judge of the instrument or other mechanical contrivance best adapted to the precise state of the case immediately under his care : that it is to such man, and not to the mechanist, parents are to look with any degree of confidence for a safe or successful treatment of children suffering from disease of the spine.

THE END.

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